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ABSTRACT

Thirty-eight tables and some commentary summarize data in accordance with such factors as: type of room, days and/or hours used, student capacity, floor space, and comparisons with other institutions. (NI)

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A STUDY OF THE UTILIZATION OF INSTRUCTIONAL SPACE
AT
VALPARAISO UNIVERSITY

FALL SEMESTER 1957-1958

BY

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REGISTRAR

Prepared for President O. P. Kretzmann upon the recommendation of
Dr. Albert F. Scribner, Vice President, Business and Finance

July 1959

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INTRODUCTION

In compiling the data for this study, the forms suggested by Dr. John Dale Russell and Dr. James I. Doi in their published Manual for Studies of Space Utilization in Colleges and Universities[1] were followed.

In discussing this study with Dr. Scribner, it was decided to use the latest fall semester figures available as it was felt that this semester was the peak load of the University's academic year. It is realized in this study that there are certain limitations--limitations regarding the facts that no consideration is given to (1) the quality of instructional space, (2) other types of plant space other than that used for instructional purposes, and (3) the matter of space integration. It is hoped that this study can be followed by other studies showing the use of space for faculty office purposes, administrative office purposes, library purposes, facilities for public meetings and entertainment, and student housing facilities.

The advice of Dr. Scribner and several members of the University's faculty, notably,Associate Professor Kenneth Mortimer of the College of Engineering, is greatly appreciated.

For various reasons, all of the rooms and classes scheduled during the Fall Semester 1957 were not used in this report. Tables 1 and 2 explain the exclusion of these rooms and classes.

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[1] John Dale Russell and James I. Doi, Manual for Studies of Space Utilization in Colleges and Universities. Athens, Ohio: American Association of Collegiate Registrars and Admissions Officers, 1957.

TABLE 1

LIST OF CLASSES BY DEPARTMENTS AND REASONS WHY THEY WERE NOT USED IN THE STUDY OF THE UTILIZATION OF INSTRUCTIONAL SPACE AT VALPARAISO UNIVERSITY, FALL 1957

DEPARTMENT	COURSE NUMBER	REASON(S)
Biology	191	Held in instructor's office.
	195	Arranged class--could not be readily identified.
Business and Economics	199	Held in instructor's office.
Chemistry	103-Laboratory	Arranged class--could not be readily identified.
Education	124-Laboratory	Arranged class--could not be readily identified.
	182	Held in instructor's office.
	192,3,4,5,&6	Supervised Teaching classes.
Foreign Languages	153-French	Held in instructor's office.
	155-French	Held in instructor's office.
	151-Greek	Held in instructor's office.
Mathematics	195	Held in instructor's office.
Music	Applied courses) Ensemble courses) 13-Laboratory) 63-Laboratory) 101,5,7,55,57,97)	Held in offices and studios.
Physical Education	1-Women) 2-Men and Women) 51A,B,C,D-Men & Women) 71,81,91,3,5,121,) 127,151,159,171,) 181,196,197,51E-N;P)	) Held in Health & Physical Educ.) Building-Gym or recreational room;) held in the Valparaiso Union Buildi) held in the YMCA or arranged class.
Religion	91--3 sections	Held in Valparaiso Union Building
	161	Held in instructor's office.
Speech and Drama	00,61,151,166	Held in instructor's office.
Engineering	GE 195	Arranged class--could not be readil identified.
Law	115,125	Held in Law Library.
	203	Held in Valparaiso Union Building

TABLE 2

LIST OF ROOMS AND REASONS WHY THEY WERE NOT USED IN THE STUDY OF THE UTILIZATION OF INSTRUCTIONAL SPACE AT VALPARAISO UNIVERSITY, FALL 1957.

ROOM	REASON
A-L -3	Not scheduled for a class.
A-L -11	Primary purpose - Law Library
A-L -35	Primary purpose - Office
B -2	Primary purpose - Office
EL -33,4,5,41,7,51	Not scheduled for a class.
GG -213	Primary purpose - Office
Gym and recreational room	
KH - 40	Not scheduled for a class.
KH - 43	Primary purpose - Office
L-M -3	Bandroom
L-M -101,5,301	Primary purpose - Office
Library 204,06	Primary purpose - Office
Music -102,204,14	Primary purpose - Office
Music Practice Rooms	
Sc. -3B,7	Not scheduled for a class.
Valparaiso Union - Rooms B & C	Primary purpose - Meeting Rooms
Valparaiso Union - Bowling Alley	
YMCA	

INSTRUCTIONAL SPACE

The Russell and Doi Manual[2] states that "There are two principal ways by which a college can accommodate more students. One is to enlarge the physical plant. The other is to make more effective use of existing facilities." Since this study concerns the latter, it is believed best that the instructional space for general classrooms, special classrooms, and laboratory facilities be analyzed separately. The definition of each type of instructional space is as follows:

GENERAL CLASSROOM

A general classroom is an instructional room that may be used for most classes of the recitation or lecture type.

SPECIAL CLASSROOM

A special classroom is an instructional room that is furnished with special equipment to best serve the needs of certain course requirements.

TEACHING LABORATORY

A teaching laboratory is an instructional room equipped for a special purpose.

In this study we have compiled data for forty-one general classrooms, six special classrooms, and twenty-seven teaching laboratories.

Upon examining the data collected in Tables 3 through 17, some of the most interesting and significant findings are as follows:

GENERAL CLASSROOMS

In Table 3 it is noted that in a 40-hour week, Valparaiso University is utilizing these rooms on an average of 68 per cent of the time and that in a 44-hour week, it is utilizing these rooms on an average of 62 per cent of the time. It is also noted that in a 40-hour week, the University is effectively using each student-station (seat) on an average of 33 per cent of the time, and that in a 44-hour week it is effectively using each student-station on an average of 30 per cent of the time. On an average, during those hours when the rooms are in use, 49 per cent of the student-stations are occupied.

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[2] Ibid

Table 4 shows the instructional room utilization by days of the week, and it is noted that on Monday, Wednesday, and Friday the rooms are occupied approximately 80 per cent of the total available time based on an 8-hour day. On Tuesday and Thursday the rooms are occupied approximately 48 per cent of the total available time based on an 8-hour day. Saturday the rooms are occupied approximately 1 per cent of the total available time.

Table 5 shows the instructional space utilization by hours of the day. The highest utilization of rooms at Valparaiso University occurs at the second (8:50-9:40) period of the day and the lowest utilization of rooms occurs at the eighth (3:30-4:20) period of the day. Furthermore, the average utilization of the rooms is more than 70 per cent except for the fourth (11:30-12:20) and fifth (12:30-1:20) periods and after the close of the sixth (1:30-2:20) period of the day.

Table 6 shows the instructional space utilization by rooms of different size. Here it is noted that the largest number of classrooms (11) have a capacity of 41-50 student-stations. These rooms are occupied 65 per cent of the maximum hours possible based on a 40-hour week and approximately 60 per cent of the student-stations are occupied when these rooms are in use. The next largest number of classrooms (9) has a capacity of 61-80 student-stations. These rooms are occupied 73 per cent of the maximum hours possible based on a 40-hour week and approximately 48 per cent of the student-stations are occupied when these rooms are in use. The one very large room (Kroencke Hall 34-theatre) is used as a general classroom in this study and it is occupied 62 per cent of the maximum hours possible based on a 40-hour week. When it is being used, only approximately 14 per cent of the student-stations are occupied. In contrast, the two classrooms of 101-150 student-station capacity show comparable figures of 67 per cent for usage and 44 per cent for student-station occupancy.

Table 7 shows the number of class-period meetings per week by size of class in relationship to capacity of the room in which classes are held. Here it is seen that 64 per cent of the class-period meetings are for classes with 30 students or less while approximately 12 per cent of the class-period meetings are conducted in rooms with a student-station capacity of 30 or less. To carry this point one step further, 97 per cent of the class-period meetings are for classes with 60 students or less while 66 per cent of the class-period meetings are conducted in rooms with a student-station capacity of 60 or less.

SPECIAL CLASSROOMS

Tables 8 through 12 are the same as Tables 3 through 7 except the data was compiled separately for these six special rooms. In general, when the special rooms are in use, the utilization is much greater than for the general classrooms. The use of these rooms by the days of the week is much more uniform than in the case of the general classrooms. It is further pointed out that the time occupancy pattern follows that of the general classrooms, heaviest use occuring during the second (8:50-9:40), third (9:50-10:40), and fifth (12:30-1:20) periods.

TEACHING LABORATORIES

While the nature of the present class schedule necessitates that most laboratories at Valparaiso University be conducted in the afternoon hours, Table 13 points out that the teaching laboratories are still occupied on an average of 41 per cent of a 40-hour week. When these laboratories are in use, the average student-station occupancy is 66 per cent. However, it is noted that in the basic biology laboratories (B-1 and B-4) they are used better than 75 per cent of the time. When these laboratories are in use, they have a student-station utilization

[text continued on page 21]

TABLE 3

SUMMARY OF UTILIZATION DATA BY GENERAL CLASSROOMS AT VALPARAISO UNIVERSITY, FALL 1957

Building	Room No.	No. of Student-Stations	Room Use, Weekly Basis			Student-Station Use, Weekly Basis				
			Total Room Periods Of Use	Percentage of Poss. Room-Period Use		Total Student Station Periods Occupied	Student Hrs. Per Station	% of Possible Station Use		% of Station Use When Room Actually in Use
				40 Hrs. Week	44 Hrs. Week			40 Hrs. Week	44 Hrs. Week	
Arts Annex	103	26	33	82.5	75.0	483	18.5	46.4	42.2	56.2
Arts Annex	107	39	27	67.5	61.3	698	17.8	44.7	40.6	66.3
Arts Annex	203	19	23	57.5	52.2	262	13.7	34.4	31.3	59.9
Arts-Law	1	74	36	90.0	81.8	1532	20.7	51.7	47.0	57.5
Arts-Law	23	45	22	55.0	50.0	633	14.0	35.1	31.9	63.9
Arts-Law	24	39	18	45.0	40.9	354	9.0	22.6	20.6	50.4
Arts-Law	31	51	37	92.5	84.0	1198	23.4	58.7	53.3	63.4
Arts-Law	33	62	33	82.5	75.0	1188	19.1	47.9	43.5	58.0
Arts-Law	34	58	33	82.5	75.0	1015	17.5	43.7	39.7	53.0
Biology	10	116	23	57.5	52.2	1285	11.0	27.6	25.1	48.1
Biology	15	80	16	40.0	36.3	474	5.9	14.8	13.4	37.0
Foundry Annex	5	53	24	60.0	54.5	817	15.4	38.5	35.0	64.2

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TABLE 3 (CONTINUED)

Building	Room No.	No. of Student-Stations	Room Use, Weekly Basis			Student-Station Use, Weekly Basis				
			Total Room Periods Of Use	Percentage of Poss Room-Period Use		Total Student Station Periods Occupied	Student Hrs. Per Station	% of Possible Station Use		% of Station Use When Room Actually in Use
				40 Hrs. Week	44 Hrs. Week			40 Hrs. Week	44 Hrs. Week	
Graland Hall	109	39	26	65.0	59.0	687	17.6	44.0	40.0	67.7
Graland Hall	110	70	33	82.5	75.0	1173	16.7	41.8	38.0	50.7
Greenwich Group	110	73	31	77.5	70.4	839	11.4	28.7	26.1	37.0
Greenwich Group	112	52	38	95.0	86.3	1107	21.2	53.2	48.3	56.0
Greenwich Group	114	68	33	82.5	75.0	828	12.1	30.4	27.6	36.8
Greenwich Group	116	64	30	75.0	68.1	1004	15.6	39.2	35.6	52.2
Greenwich Group	124	95	32	80.0	72.7	1088	11.4	28.6	26.0	35.7
Greenwich Group	201	16	17	42.5	38.6	112	7.0	17.5	15.9	41.1
Greenwich Group	202	23	25	62.5	56.8	229	9.9	24.8	22.6	39.8
Greenwich Group	204-6	60	25	62.5	56.8	1002	16.7	41.7	37.8	66.8
Greenwich Group	207	16	23	57.5	52.2	198	12.3	30.9	28.1	53.8
Heine Hall	--	26	12	30.0	27.2	255	9.8	24.5	22.2	81.7
Kroencke Hall	7-9	57	29	72.5	65.9	768	13.4	33.6	30.6	46.4

(CONTINUED)

TABLE 3 (CONTINUED)

Building	Room No.	No. of Student-Stations	Room Use, Weekly Basis			Student-Station Use, Weekly Basis				
			Total Room Periods Of Use	Percentage of Poss Room-Period Use		Total Student Station Periods Occupied	Student Hrs. Per Station	% of Possible Station Use		% of Station Use When Room Actually in Use
				40 Hrs. Week	44 Hrs. Week			40 Hrs. Week	44 Hrs Week	
Kroencke Hall	10	53	34	85.0	77.2	731	13.8	34.4	31.3	40.5
Kroencke Hall	11	41	28	70.0	63.6	542	13.2	33.0	30.0	47.2
Kroencke Hall	12	44	31	77.5	70.4	903	20.5	51.3	46.6	66.2
Kroencke Hall	13	39	32	80.0	72.7	711	18.2	45.5	41.4	56.9
Kroencke Hall	15-17	41	27	67.5	61.3	828	20.1	50.4	45.8	74.7
Kroencke Hall	34	250	25	62.5	56.8	862	3.4	8.6	7.8	13.7
Language-Music	203	42	32	80.0	72.7	679	16.1	40.4	36.7	50.5
Language-Music	204	49	30	75.0	68.1	796	16.2	40.6	36.9	54.1
Language-Music	303	47	24	60.0	54.5	513	10.9	27.2	24.8	45.4
Language-Music	304	42	25	62.5	56.8	631	15.0	37.5	34.1	60.0
Memorial Basement	15	43	17	42.5	38.6	574	13.3	33.3	30.3	78.5
Memorial Basement	17	45	25	62.5	56.8	733	16.2	40.7	37.0	65.1
Science	12	63	29	72.5	65.9	1025	16.2	40.6	36.9	56.1

(CONTINUED)

TABLE 3 (CONTINUED)

Building	Room No.	No. of Student-Stations	Room Use, Weekly Basis			Student-Station Use, Weekly Basis				
			Total Room Periods Of Use	Percentage of Poss. Room-Period Use		Total Student Station Periods Occupied	Student Hrs. Per Station	% of Possible Station Use		% of Station Use When Room Actually in Use
				40 Hrs. Week	44 Hrs. Week			40 Hrs. Week	44 Hrs Week	
Science	15	120	31	77.5	70.4	1557	12.9	32.4	29.4	41.8
Science	21	64	22	55.0	50.0	723	11.2	28.2	25.6	51.3
Science	22	45	28	70.0	63.6	726	16.1	40.3	36.6	57.6
TOTAL	41	2349	1119	X	X	31763	X	X	X	X
AVERAGE	X	X	27.2	68.2	62.0	X	13.5	33.8	30.7	48.7

TABLE 4

SUMMARY OF INSTRUCTIONAL ROOM UTILIZATION BY DAYS OF THE WEEK FOR GENERAL CLASSROOMS AT VALPARAISO UNIVERSITY, FALL 1957

A. Total available room-periods each day:
   1. Based on institution's schedule (Total rooms X no. of periods in institution's daily schedule)
      Mon. 328; Tues. 328; Wed. 328; Thurs. 328; Fri. 328; Sat. ___

   2. Based on 44-period week
      Each day, Monday through Friday (Total rooms X 8) 328
      Saturday (Total rooms X 4) 164

B. Total number of student-stations in this group of rooms 2349

C. Total available student-station-periods each day:
   1. Based on the institution's schedule (Total student-stations X no. of periods in the institution's daily schedule)
      Mon. 18792 ; Tues. 18792; Wed. 18792 ; Thurs. 18792; Fri. 18792 ; Sat. ___

   2. Based on 44-period week
      Each day, Monday through Friday (Total student-stations X 8) 18792
      Saturday (Total student-stations X 4) 9396

Day of Week	Room-Period Use				Student-Station-Period Use			
	Total Room-Periods Used	Av. Room-Periods Use for Day	% of Possible Utilization		Tot.Stdt. Stat.Pds. Occupied	Av. Student Hrs. Per Station	% of Possible Utilization	
			Based on Inst. Sch.	Based on Wk.-44Pd			Based on Inst. Sch.	Based on Wk.-44 Pd
Monday	271	6.6	82.6	82.6	7887	3.3	41.9	41.9
Tuesday	170	4.1	51.8	51.8	4702	2.0	25.2	25.2
Wednesday	278	6.7	84.7	84.7	7969	3.3	42.4	42.4
Thursday	149	3.6	45.4	45.4	4105	1.7	21.8	21.8
Friday	249	6.0	75.9	75.9	7089	3.0	37.7	37.7
Saturday	2	-	-	1.2	11	-	-	0.11

TABLE 5

SUMMARY OF INSTRUCTIONAL SPACE UTILIZATION BY HOURS OF THE DAY FOR GENERAL CLASSROOMS AT VALPARAISO UNIVERSITY, FALL 1957

A. Total available room-periods weekly at each hour:
   1. Based on institution's schedule (For each hour, enter in first column the number of rooms in category X number of days in the week classes may meet at that hour)
   2. Based on 44-period week (Enter in 2nd column)
      a. Morning hours (number of rooms in category X 6) 246
      b. Afternoon hours (number of rooms in category X 5) 205

B. Total number of student-stations in this group of rooms 2349

C. Total available student-station-periods weekly at each hour:
   1. Based on institution's schedule (For each hour, enter in third column number of student stations in category X number of days in the week classes may meet at that hour)
   2. Based on 44-period week (Enter in 4th column)
      a. Morning hours (no. of student stations X 6) 14094
      b. Afternoon hours (no. of student stations X 5) 11745

Hour	Total Available Room-Periods		Total Available Station-Periods		Total Room Periods Used	Total Student-Station-Periods Occp. Wkly	Percentage of Possible Utilization			
							Room-Period Basis		Stud-Station-Period Basis	
of Day	Based on Instit. Schedule	Based on Wk. of 44 Periods	Based on Instit. Schedule	Based on Wk. of 44 Periods			Based on Instit. Schedule	Based on Wk. of 44 Periods	Based on Instit. Schedule	Based on Wk. of 44 Periods
6:50-7:40					3	48				
7:50-8:40	205	246	11745	14094	146	4594	71.2	59.3	39.1	32.5
8:50-9:40	205	246	11745	14094	191	5494	93.1	77.6	46.7	38.9
9:50-10:40	205	246	11745	14094	178	5663	86.8	72.3	48.2	40.1
11:30-12:20	205	246	11745	14094	133	3784	64.8	54.0	32.2	26.8
12:30-1:20	205	---	11745	---	132	3712	64.3	---	31.6	---
1:30-2:20	205	205	11745	11745	149	4127	72.6	72.6	35.1	35.1
2:30-3:20	205	205	11745	11745	116	2630	56.5	56.5	22.4	22.4
3:30-4:20	205	205	11745	11745	39	1008	19.0	19.0	8.5	8.5
4:30-5:20					22	571				
5:30-6:20					6	68				
6:30-7:20					2	58				
7:30-8:20					1	2				
8:30-9:20					1	4				
9:30-10:20										

TABLE 6

SUMMARY OF UTILIZATION OF INSTRUCTIONAL SPACE IN ROOMS OF EACH SIZE FOR GENERAL CLASSROOMS AT VALPARAISO UNIVERSITY, FALL 1957

Number of Student Stations in Room	Number of Rooms of each size	Total Available Room Periods		Total Student Stations in each Group of Rooms	Total Available Student-station periods		Room-Period Use				Student-Station-Period Use				% of Station Use When Room in Use
		Based on Instit. Schedule	Based on Week of 44 Periods		Based on Instit. Schedule	Based on Week of 44 Periods	Total Room-Periods Used	Average Room-Periods Use for Week	Percentage of Possible Utilization		Total Student-Station-Periods Occupied	Average Student Hours Per Week Per Station	Percentage of Possible Utilization		
									Based On Instit. Schedule	Based on Week of 44 Periods			Based on Instit. Schedule	Based on Week of 44 Periods	
1-10															
11-20	3	120	132	51	2040	2244	63	21.0	52.5	47.7	572	11.2	28.0	25.4	53.1
21-30	3	120	132	75	3000	3300	70	23.3	58.3	53.0	967	12.8	32.2	29.3	55.4
31-40	4	160	176	156	6240	6864	103	25.7	64.3	58.5	2450	15.7	39.2	35.7	60.9
41-50	11	440	484	484	19360	21296	289	26.2	65.6	59.7	7558	15.6	39.0	35.4	59.4
51-60	7	280	308	384	15360	16896	220	31.4	78.5	71.4	6638	17.2	43.2	39.2	55.2
61-80	9	360	396	618	24720	27192	263	29.2	73.0	66.4	8786	14.2	35.5	32.3	47.9
81-100	1	40	44	95	3800	4180	32	32.0	80.0	72.7	1088	11.4	28.6	26.0	35.7
101-150	2	80	88	236	9440	10384	54	27.0	67.5	61.3	2842	12.0	30.1	27.3	44.4
151-200															
201-250	1	40	44	250	10000	11000	25	25.0	62.5	56.8	862	3.4	8.6	7.8	13.7
251 and over															

TABLE 7

DISTRIBUTION OF THE NUMBER OF CLASS-PERIOD MEETINGS PER WEEK BY SIZE OF CLASS IN RELATIONSHIP TO CAPACITY OF THE ROOM IN WHICH CLASSES ARE HELD FOR GENERAL CLASSROOMS AT VALPARAISO UNIVERSITY, FALL 1957

	Number of Class-Period Meetings Per Week For Classes of Each Group														
Room Cap.	1 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 80	81 to 100	101 to 150	151 to 200	201 to 250	251 and over	Total	Percentage	Cum. Percentage
1-10															
11-20	40	23											63	5.63	5.63
21-30	19	37	14										70	6.26	11.89
31-40	5	23	62	13									103	9.20	21.09
41-50	23	55	106	70	35								289	25.83	46.92
51-60	14	39	75	41	25	26							220	19.66	66.58
61-80	9	31	86	70	35	27	5						263	23.50	90.08
81-100		3	15	6	5		3						32	2.86	92.94
101-150	1	10	9	4	7	5	8	4	6				54	4.83	97.77
151-200															
201-250		14	3	2	3			2			1		25	2.23	100.00
251 and over															
Total	111	235	370	206	110	58	16	6	6		1		1119	100.00	
Percent.	9.92	21.00	33.07	18.41	9.83	5.18	1.43	.54	.54		.08			100.00	
Cum.%	9.92	30.92	63.99	82.40	92.23	97.41	98.84	99.38	99.92		100.00				

TABLE 8

SUMMARY OF UTILIZATION DATA BY SPECIAL CLASSROOMS AT VALPARAISO UNIVERSITY, FALL 1957

Building	Room No.	No. of Student-Stations	Room Use, Weekly Basis			Student-Station Use, Weekly Basis				
			Total Room Periods Of Use	Percentage of Poss. Room-Period Use		Total Student Station Periods Occupied	Student Hrs. Per Station	% of Possible Station Use		% of Station Use When Room Actually in Use
				40 Hrs. Week	44 Hrs. Week			40 Hrs. Week	44 Hrs Week	
Bookstore Elem. Art	-	31	16	40.0	36.3	430	13.8	34.6	31.5	86.6
Engineering Lab	23	21	12	30.0	27.2	219	10.4	26.0	23.7	86.9
Engineering Lab	42	22	7	17.5	15.9	126	5.7	14.3	13.0	81.1
Graland Hall	107	61	40	100.0	90.9	1306	21.4	53.5	48.6	53.5
Music	206	29	28	70.0	63.6	292	10.0	25.1	22.8	35.9
Science	23	26	25	62.5	56.8	588	22.6	56.5	51.3	90.4
Total	6	190	128	X	X	2961	X	X	X	X
Average	X	X	21.3	53.3	48.4	X	15.5	38.9	35.4	61.6

TABLE 9

SUMMARY OF INSTRUCTIONAL ROOM UTILIZATION BY DAYS OF THE WEEK FOR SPECIAL CLASSROOMS AT VALPARAISO UNIVERSITY, FALL 1957

A. Total available room-periods each day:
1. Based on institution's schedule (Total rooms X no. of periods in institution's daily schedule)
Mon. 48; Tues. 48; Wed. 48; Thurs. 48; Fri. 48; Sat. __

2. Based on 44-period week
Each day, Monday through Friday (Total rooms X 8) 48
Saturday (Total rooms X 4) 24

B. Total no. of student-stations in this group of rooms 190

C. Total available student-station-periods each day:
1. Based on the institution's schedule (Total student-stations X no. of periods in the institution's daily schedule)
Mon. 1520; Tues. 1520; Wed. 1520; Thurs. 1520; Fri. 1520;
Sat. ______

2. Based on 44-period week
Each day, Monday through Friday (Total student-stations X 8) 1520
Saturday (Total student-stations X 4) 760

	Room-Period Use				Student-Station-Period Use			
Day of Week	Total Room-Periods Used	Av. Room-Periods Use for Day	% of Possible Utilization		Tot.Stdt. Stat.Pds Occupied	Av.Student Hrs. Per Station	% of Possible Utilization	
			Based on Inst. Sch	Based on Wk.-44 Pd			Based on Inst. Sch	Based on Wk.-44-Pd.
Monday	30	5.0	62.5	62.5	664	3.4	43.6	43.6
Tuesday	23	3.8	47.9	47.9	575	3.0	37.8	37.8
Wednesday	28	4.6	58.3	58.3	623	3.2	40.9	40.9
Thursday	22	3.6	45.8	45.8	576	3.0	37.8	37.8
Friday	25	4.1	52.0	52.0	523	2.7	34.4	34.4
Saturday	--	--	--	0.0	--	--	--	0.0

TABLE 10

SUMMARY OF INSTRUCTIONAL SPACE UTILIZATION BY HOURS OF THE DAY FOR SPECIAL CLASSROOMS AT VALPARAISO UNIVERSITY, FALL 1957

A. Total available room-periods weekly at each hour:
   1. Based on institution's schedule (For each hour, enter in first column the no. of rooms in category X no. of days in the week classes may meet at that hour)
   2. Based on 44-period week (Enter in 2nd column)
      a. Morning hours (no. of rooms in category X 6) 36
      b. Afternoon hours (no. of rooms in category X 5) 30

B. Total number of student-stations in this group of rooms 190

C. Total available student-station-periods weekly at each hour:
   1. Based on institution's schedule (For each hour, enter in third column no. of student stations in category X no. of days in the week classes may meet at that hour)
   2. Based on 44-period week (Enter in 4th column)
      a. Morning hours (no. of student stations X 6) 1140
      b. Afternoon hours (no. of student stations X 5) 950

Hour	Total Available Room-Periods		Total Available Station-Periods		Total Room Periods Used	Total Student-Station-Periods Occp. Wkly	Percentage of Possible Utilization			
of							Room-Period Basis		Stud-Station-Period Basis	
Day	Based on Instit. Schedule	Based on Wk. of 44 Periods	Based on Instit. Schedule	Based on Wk. of 44 Periods			Based on Instit. Schedule	Based on Wk. of 44 Periods	Based on Instit. Schedule	Based on Wk. of 44 Periods
6:50-7:40										
7:50-8:40	30	36	950	1140	16	436	53.3	44.4	45.8	38.2
8:50-9:40	30	36	950	1140	25	533	83.3	69.4	56.1	46.7
9:50-10:40	30	36	950	1140	23	475	76.6	63.8	50.0	41.6
11:30-12:20	30	36	950	1140	8	100	26.6	22.2	10.5	8.7
12:30-1:20	30	X	950	X	18	358	60.0	X	37.6	X
1:30-2:20	30	30	950	950	18	458	60.0	60.0	48.2	48.2
2:30-3:20	30	30	950	950	8	242	26.6	26.6	25.4	25.4
3:30-4:20	30	30	950	950	8	226	26.6	26.6	23.7	23.7
4:30-5:20					4	133				
5:30-6:20										
6:30-7:20										
7:30-8:20										
8:30-9:20										
9:30-10:20										

TABLE 11

SUMMARY OF UTILIZATION OF INSTRUCTIONAL SPACE IN ROOMS OF EACH SIZE FOR SPECIAL CLASSROOMS AT VALPARAISO UNIVERSITY, FALL 1957

Number of Student Stations in Room	Number of Rooms of each size	Total Available Room Periods		Total Student Stations in each Group of Rooms	Total Available Student-station periods		Room-Period Use				Student-Station-Period Use				% of Station Use When Room in Use
							Total Room-Periods Used	Average Room-Periods Use for Week	Percentage of Possible Utilization		Total Student-Station-Periods Occupied	Average Student Hours Per Week Per Station	Percentage of Possible Utilization		
		Based on Instit. Schedule	Based on Week of 44 Periods		Based on Instit. Schedule	Based on Week of 44 Periods			Based on Instit. Schedule	Based on Week of 44 Periods			Based on Instit. Schedule	Based on Week of 44 Periods	
1-10															
11-20															
21-30	4	160	176	98	3920	4312	72	18	45.0	40.9	1225	12.5	31.2	28.4	65.5
31-40	1	40	44	31	1240	1364	16	16	40.0	36.3	430	13.8	34.6	31.5	86.6
41-50															
51-60															
61-80	1	40	44	61	2440	2684	40	40	100.0	90.9	1306	21.4	53.5	48.6	53.5
81-100															
01-150															
51-200															
01-250															
51 and over															

TABLE 12

DISTRIBUTION OF THE NUMBER OF CLASS-PERIOD MEETINGS PER WEEK BY SIZE OF CLASS IN RELATIONSHIP TO CAPACITY OF THE ROOM IN WHICH CLASSES ARE HELD FOR SPECIAL CLASSROOMS AT VALPARAISO UNIVERSITY, FALL 1957

Room cap.	Number of Class-Period Meetings Per Week For Classes of Each Group												Total	Percent-age	Cum. Percent-age
	1 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 80	81 to 100	101 to 150	151 to 200	201 to 250	251 and over			
1-10															
11-20															
21-30	23	23	26										72	56.25	56.25
31-40			13	3									16	12.50	68.75
41-50															
51-60															
61-80		6	16	8	4	4	2						40	31.25	100.00
81-100															
101-150															
151-200															
201-250															
251 and over															
Total	23	29	55	11	4	4	2						128	100.00	
Percent.	17.96	22.66	42.97	8.59	3.13	3.13	1.56							100.00	
Cum.%	17.96	40.62	83.59	92.18	95.31	98.44	100.00								

TABLE 13

SUMMARY OF UTILIZATION DATA BY TEACHING LABORATORIES AT VALPARAISO UNIVERSITY, FALL 1957

			Room Use, Weekly Basis			Student-Station Use, Weekly Basis				
Building	Room No.	No. of Student-Stations	Total Room Periods Of Use	Percentage of Poss. Room-Period Use		Total Student Station Periods Occupied	Student Hrs. Per Station	% of Possible Station Use		% of Station Use When Room Actually in Use
				40 Hrs. Week	44 Hrs. Week			40 Hrs. Week	44 Hrs. Week	
Biology	1	36	32	80.0	72.7	1016	28.2	70.5	64.1	88.1
Biology	4	40	30	75.0	68.1	962	24.0	60.1	54.6	80.1
Biology	22	24	8	20.0	18.1	132	5.5	13.7	12.5	68.7
Biology	23	20	11	27.5	25.0	87	4.3	10.8	9.9	39.5
Biology	25	18	8	20.0	18.1	140	7.7	19.4	17.6	97.2
Engineering	1	20	3	7.5	6.8	48	2.4	6.0	5.4	80.0
Engineering Annex	1	24	12	30.0	27.2	146	6.0	15.2	13.8	50.6
Engineering Lab	24	12	21	52.5	47.7	189	15.7	39.3	35.7	75.0
Engineering Lab	25	12	9	22.5	20.4	78	6.5	16.2	14.7	72.2
Engineering Lab	26	12	9	22.5	20.4	72	6.0	15.0	13.6	66.6
Engineering Lab	28	12	24	60.0	54.5	252	21.0	52.5	47.7	87.5
Engineering Lab	37	12	9	22.5	20.4	87	7.2	18.1	16.4	80.5
Engineering Lab	44	12	6	15.0	13.6	66	5.5	13.7	12.5	91.6
Engineering Lab	48	22	21	52.5	47.7	276	12.5	31.3	28.5	59.7
Greenwich Group	126	27	20	50.0	45.4	371	13.7	34.3	31.2	68.7
Greenwich Group	128	35	20	50.0	45.4	449	12.8	32.0	29.1	64.1
Greenwich Group	203-5	22	28	70.0	63.6	323	14.6	36.7	33.3	52.4
Greenwich Group	218	23	32	80.0	72.7	400	17.3	43.4	39.5	54.3
Home Ec. Cottage	--	13	18	45.0	40.9	172	13.2	33.0	30.0	73.5
Kroencke Hall	6-8	21	12	30.0	27.2	140	6.6	16.6	15.1	55.5
Kroencke Hall	42	9	4	10.0	9.0	36	4.4	10.0	9.0	100.0
Music	300	68	18	45.0	40.9	662	9.7	24.3	22.1	54.0
Science	2	22	40	100.0	90.9	550	25.0	62.5	56.8	62.5
Science	3A	8	6	15.0	13.6	23	2.8	7.1	6.5	47.6
Science	8	32	21	52.5	47.7	445	13.9	34.7	31.6	66.2
Science	11	24	11	27.5	25.0	129	5.3	13.4	12.2	48.8
Science	24	24	12	30.0	27.2	150	6.2	15.6	14.2	52.0
Total	27	604	445	X	X	7401	X	X	X	X
Average	X	X	16.4	41.2	37.5	X	12.2	30.6	27.8	66.2

of better than 80 per cent. The basic chemistry laboratories (GG 126 and GG 128) are used 50 per cent of the time while at the same time the student-station utilization is better than 64 per cent. The engineering laboratories (EL 24, 25, 26, 28, 37, 44, and 48) are used between 15 per cent to 60 per cent of the available 40-hour week with a student-station utilization of approximately 75 per cent. The basic physics laboratory (Sc. 2) is used 100 per cent of the time since the laboratory classes were conducted as late as 6:00 P.M. and several small lecture classes were scheduled in this room during the early morning hours. The late afternoon classes have been computed in percentage of utilization, since these classes use the available facilities.

Tables 14 and 15 show the space utilization by days of the week and hours of the day. Since most of the laboratories range from 2 hours to 3 hours in length, scheduling problems dictate that the majority of the laboratories be held on Tuesday and Thursday and that laboratory classes begin as early as 6:50 A.M. and last as late as 6:20 P.M. The majority of the laboratories are occupied in the afternoon periods (beginning at the 12:30 period). However, it is noted that 32 per cent of the laboratories are in use during the second (8:50-9:40) period.

In Table 16 it is noted that, in general, the utilization of laboratory student-stations during the hours of occupancy is high. However, many of the basic laboratories are used for advanced laboratory courses with smaller enrollments which may tend to make the values tabulated for the student-station occupancy when the room is in use deceptively low. Table 17 shows that while 72 per cent of the University's laboratory class period meetings are for classes with 20 or less students, 29 per cent of the laboratory class period meetings are held in rooms with a capacity of 20 student-stations or less. Also, while 84 per cent of its laboratory class-period meetings are for classes with 30 or less students, 72 per cent of the laboratory class-period meetings are held in rooms with a capacity of 30 student-stations or less.

TABLE 14

SUMMARY OF INSTRUCTIONAL ROOM UTILIZATION BY DAYS OF THE WEEK FOR TEACHING LABORATORIES AT VALPARAISO UNIVERSITY, FALL 1957

Total available room-periods each day:

1. Based on institution's schedule (Total rooms X no. of periods in institution's daily schedule)
   Mon. 216; Tues. 216 ; Wed. 216 ; Thurs. 216 ; Fri. 216 ; Sat. ____

2. Based on 44-period week
   Each day, Monday through Friday (Total rooms X 8) 216
   Saturday (Total rooms X 4) 108

Total no. of student-stations in this group of rooms 604

Total available student-station-periods each day:

1. Based on the institution's schedule (Total student-stations X no. of periods in the institution's daily schedule)
   Mon. 4832 ; Tues. 4832 ; Wed. 4832 ; Thurs. 4832 ; Fri. 4832 ; Sat. ____

2. Based on 44-period week
   Each day, Monday through Friday (Total student-stations X 8) 4832
   Saturday (Total student-stations X 4) 2416

Day of Week	Room-Period Use				Student-Station-Period Use			
	Total Room-Periods Used	Av. Room-Periods Use for Day	% of Possible Utilization		Tot. Stdt Stat. Pds Occupied	Av. Student Hrs. Per Station	% of Possible Utilization	
			Based on Inst.Sch.	Based on Wk.-44 Pd			Based on Inst. Sch	Based on Wk.-44 Pd
Monday	79	2.9	36.5	36.5	1256	2.0	25.9	25.9
Tuesday	110	4.0	50.9	50.9	1642	2.7	33.9	33.9
Wednesday	86	3.1	39.8	39.8	1556	2.5	32.2	32.2
Thursday	106	3.9	49.0	49.0	1759	2.8	36.4	36.4
Friday	64	2.3	29.6	29.6	1188	1.9	24.5	24.5
Saturday	-	-	-	0.0	-	-	-	0.0

TABLE 15

SUMMARY OF INSTRUCTIONAL SPACE UTILIZATION BY HOURS OF THE DAY FOR TEACHING LABORATORIES AT VALPARAISO UNIVERSITY, FALL 1957

A. Total available room-periods weekly at each hour:
   1. Based on institution's schedule (For each hour, enter in first column the no. of rooms in category X no. of days in the week classes may meet at that hour)
   2. Based on 44-period week (Enter in 2nd column)
      a. Morning hours (no. of rooms in category X 6) 162
      b. Afternoon hours (no. of rooms in category X 5) 135

B. Total number of student-stations in this group of rooms 604

C. Total available student-station-periods weekly at each hour:
   1. Based on institution's schedule (For each hour, enter in third column no. of student stations in category X no. of days in the week classes may meet at that hour)
   2. Based on 44-period week (Enter in 4th column)
      a. Morning hours (no. of student stations X 6) 3624
      b. Afternoon hours (no. of student stations X 5) 3020

Hour of Day	Total Available Room-periods		Total Available Station-Periods		Total Room Periods Used	Total Student-Station-Periods Occp.Wkly	Percentage of Possible Utilization			
							Room-Period Basis		Stud-Station-Period Basis	
	Based on Instit. Schedule	Based on Wk. of 44 Periods	Based on Instit. Schedule	Based on Wk. of 44 Periods			Based on Instit. Schedule	Based on Wk. of 44 Periods	Based on Instit. Schedule	Based on Wk. of 44 Periods
6:50-7:40					9	262				
7:50-8:40	135	162	3020	3624	32	628	23.7	19.7	20.7	17.3
8:50-9:40	135	162	3020	3624	43	806	31.8	26.5	26.6	22.2
9:50-10:40	135	162	3020	3624	35	586	25.9	21.6	19.4	16.1
11:30-12:20	135	162	3020	3624	25	500	18.5	15.4	16.5	13.7
12:30-1:20	135	X	3020	X	46	608	34.0	X	20.1	X
1:30-2:20	135	135	3020	3020	65	1041	48.1	48.1	34.4	34.4
2:30-3:20	135	135	3020	3020	75	1216	55.5	55.5	40.2	40.2
3:30-4:20	135	135	3020	3020	60	934	44.4	44.4	30.9	30.9
4:30-5:20					39	687				
5:30-6:20					16	133				
6:30-7:20										
7:30-8:20										
8:30-9:20										
9:30-10:20										

TABLE 16

SUMMARY OF UTILIZATION OF INSTRUCTIONAL SPACE IN ROOMS OF EACH SIZE FOR TEACHING LABORATORIES AT VALPARAISO UNIVERSITY, FALL 1957

Number of Student Stations in Room	Number of Rooms of each size	Total Available Room Periods		Total Student Stations in each Group of Rooms	Total Available Student-station periods		Room-Period Use				Student-Station-Period Use				% of Station Use When Room in Use
							Total Room-Periods Used	Average Room-Periods Use for Week	Percentage of Possible Utilization		Total Student-Station-Periods Occupied	Average Student Hours Per Week Per Station	Percentage of Possible Utilization		
		Based on Instit. Schedule	Based on Week of 44 Periods		Based on Instit. Schedule	Based on Week of 44 Periods			Based on Instit. Schedule	Based on Week of 44 Periods			Based on Instit. Schedule	Based on Week of 44 Periods	
1-10	2	80	88	17	680	748	10	5.0	12.5	11.3	59	3.4	8.6	7.8	70.2
11-20	10	400	440	143	5720	6292	118	11.8	29.5	26.8	1191	8.3	20.8	18.9	74.7
21-30	10	400	440	233	9320	10252	196	19.6	49.0	44.5	2617	11.2	28.0	25.5	57.9
31-40	4	160	176	143	5720	6292	103	25.7	64.3	58.5	2872	20.0	50.2	45.6	77.1
41-50															
51-60															
61-80	1	40	44	68	2720	2992	18	18.0	45.0	40.9	662	9.7	24.3	22.1	54.0
81-100															
101-150															
151-200															
201-250															
251 and over															

TABLE 17

DISTRIBUTION OF THE NUMBER OF CLASS-PERIOD MEETINGS PER WEEK BY SIZE OF CLASS IN RELATIONSHIP TO CAPACITY OF THE ROOM IN WHICH CLASSES ARE HELD FOR TEACHING LABORATORIES AT VALPARAISO UNIVERSITY, FALL 1957

Room Cap.	Number of Class-Period Meetings Per Week For Classes of Each Group												Total	Percentage	Cum. Percentage
	1 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 80	81 to 100	101 to 150	151 to 200	201 to 250	251 and over			
1-10	10												10	2.25	2.25
11-20	77	41											118	26.52	28.77
21-30	83	91	22										196	44.04	72.81
31-40	10	6	32	55									103	23.15	95.96
41-50															
51-60															
61-80		3		11	4								18	4.04	100.00
81-100															
101-150															
151-200															
201-250															
251 and over															
Total	180	141	54	66	4								445	100.00	
Percent.	40.45	31.69	12.13	14.38	.90										
Cum. %	40.45	72.14	84.27	99.10	100.00										

Tables 18 and 19 show the utilization of general classrooms, teaching laboratories, and others (special classrooms) by unassignment, by assignment to departments that have first preference, and by assignment to departments that have control It is believed best to examine these tables along with Tables 20 and 21 separately. Table 18 shows this utilization on a room-period basis based on a 44-hour week and Table 19, on a student-station basis. Table 18 shows the 12 unassigned general classrooms are used on an average of 58 per cent of the time, while the 27 preference general classrooms are used by the preferred department 43 per cent of the time and other departments 21 per cent. Thus, the average total utilization of the preferred general classrooms is in line with the unassigned classrooms, and consequently, the University's system of first preference on general classrooms does not reduce the utilization of room-periods markedly. The higher percentage of use in the preferred group is due more to the fact that these are the better classrooms rather than the method of assignment. Of the total of 27 teaching laboratories, 24 of them are control rooms in which the percentage of room-period utilization is only 34. The percentages in this group run from a low of 6.8 (E-1) to a high of 91 (Sc.2). It is once again pointed out that the basic laboratory rooms in biology, chemistry, and physics have a fairly high percentage of room-period usage while the percentage for the more advanced laboratory rooms is much lower (approximately 22 per cent). Consequently, the average total percentage can be misleading unless this differentiation is considered. The utilization of the engineering laboratories range from a low of approximately 14 per cent to a high of 54 per cent. This variation is due to the fact that some laboratories are used for more than one course and that the number of sections per course varies.

In the 12 unassigned and 27 preferred general classrooms, it is noted that the utilization of the student-stations when the rooms are used are relatively close--52 per cent compared with 46 per cent (Table 19). If these utilizations

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TABLE 18

ANALYSIS OF ROOM-PERIOD UTILIZATION BY INSTRUCTIONAL DEPARTMENTS TO WHICH ROOMS ARE PERMANENTLY* ASSIGNED FOR GENERAL CLASSROOMS, TEACHING LABORATORIES, AND OTHERS AT VALPARAISO UNIVERSITY, FALL 1957

pts. or office to ich rooms are per- nently* assigned	General Classrooms				Teaching Laboratories				Others			
	Number of Rooms	% Room-period Use on 44-hr. Weekly Basis			Number of Rooms	% Room-period Use on 44-hr. Weekly Basis			Number of Rooms	% Room-period Use on 44-hr. Weekly Basis		
		1st. Pref.	Bal.	Tot.		1st. Pref.	Bal.	Tot.		1st. Pref.	Bal.	Tot.
Unassigned Rooms	12											
AA-107				61.3								
AA-203				52.2								
FA-5				54.5								
GH-110				75.0								
GG-114				75.0								
GG-116				68.1								
GG-124				72.7								
GG-201				38.6								
GG-202				56.8								
GG-207				52.2								
MB-15				38.6								
MB-17				56.8								
Art					1				1			
BEA										9.1	27.2	36.3
KH-6-8 (Control)								27.2				
Dept. of Biology	2				5							
B-1 (Control)								72.7				
B-4 (Control)								68.1				
B-10		25.0	27.2	52.2								
B-15		13.6	22.7	36.3								
B-22(Control)								18.1				
B-23(Control)								25.0				
B-25(Control)								18.1				
Dept. of Business & Ec.	3				1							
AL-31		84.0	--	84.0								
AL-33		75.0	--	75.0								
AL-34		61.3	13.7	75.0								
GG-203-5						54.5	9.1	63.6				
Dept. of Chemistry	1				4							
GG-126(Control)								45.4				
GG-128(Control)								45.4				
Sc.-11(Control)								25.0				
Sc.-15		40.9	29.5	70.4								
Sc.-24(Control)								27.2				

(CONTINUED)

ermanent assignment means the same as control or first preference.

TABLE 18 (CONTINUED)

ANALYSIS OF ROOM-PERIOD UTILIZATION BY INSTRUCTIONAL DEPARTMENTS TO WHICH ROOMS ARE PERMANENTLY* ASSIGNED FOR GENERAL CLASSROOMS, TEACHING LABORATORIES, AND OTHERS AT VALPARAISO UNIVERSITY, FALL 1957

epts. or office to hich rooms are per- nently* assigned	General Classrooms				Teaching Laboratories				Others			
	Number of Rooms	% Room-period Use on 44-hr. Weekly Basis			Number of Rooms	% Room-period Use on 44-hr. Weekly Basis			Number of Rooms	% Room-period Use on 44-hr. Weekly Basis		
		1st. Pref.	Bal.	Tot.		1st. Pref.	Bal.	Tot.		1st. Pref.	Bal.	Tot.
. Dept. of Education	2								1			
Sc.-21		11.4	38.6	50.0								
Sc.-22		63.6	--	63.6								
Sc.-23(Control)												56.8
. Dept. of Foreign Languages	6											
GG-110		40.9	29.5	70.4								
GG-112		40.9	45.4	86.3								
LM-203		54.5	18.2	72.7								
LM-204		47.7	20.4	68.1								
LM-303		47.7	6.8	54.5								
LM-304		47.7	9.1	56.8								
. Dept. of Geography & Geology	3				1							
AL-1 (Control)				81.8								
E-1 (Control)								6.8				
KH-7-9		38.6	27.3	65.9								
KH-11		38.6	25.0	63.6								
I. Dept. of Government	1											
AA-103		50.0	25.0	75.0								
J. Dept. of Home Economics					2							
GG-218(Control)								72.7				
HEC (Control)								40.9				
K. Dept. of Mathematics	1											
KH-15-17		43.1	18.2	61.3								
L. Dept. of Music					1				1			
M-206												63.6
M-300								40.9				
M. Dept. of Physics	1				3							
Sc.-2(Control)						84.1	6.8	90.9				
Sc.-3A(Control)								13.6				
Sc.-8						20.4	27.3	47.7				
Sc.-12		31.8	34.1	65.9								
N. Dept. of Psychology	1											
GG-204-06		52.3	4.5	56.8								
O. Dept. of Speech and Drama	2				1							
KH-10		22.7	54.5	77.2								
KH-34		36.3	20.5	56.8								
KH-42(Control)								9.0				

(CONTINUED)

*Permanent assignment means the same as control or first preference.

TABLE 18 (CONTINUED)

ANALYSIS OF ROOM-PERIOD UTILIZATION BY INSTRUCTIONAL DEPARTMENTS TO WHICH ROOMS ARE PERMANENTLY* ASSIGNED FOR GENERAL CLASSROOMS, TEACHING LABORATORIES, AND OTHERS AT VALPARAISO UNIVERSITY, FALL 1957

pts. or office to ich rooms are per-nently* assigned	General Classrooms				Teaching Laboratories				Others			
	Number of Rooms	% Room-period Use on 44-hr. Weekly Basis			Number of Rooms	% Room-period Use on 44-hr. Weekly Basis			Number of Rooms	% Room-period Use on 44-hr. Weekly Basis		
		1st. Pref.	Bal.	Tot.		1st. Pref.	Bal.	Tot.		1st. Pref.	Bal.	Tot.
College of Engineering	4				8				3			
EA-1(Control)								27.2				
EL-23(Control)												27.2
EL-24(Control)								47.7				
EL-25(Control)								20.4				
EL-26(Control)								20.4				
EL-28(Control)								54.5				
EL-37(Control)								20.4				
EL-42(Control)												15.9
EL-44(Control)								13.6				
EL-48(Control)								47.7				
GH-107										72.7	18.2	90.9
GH-109		50.0	9.0	59.0								
HH-(Control)				27.2								
KH-12		4.5	65.9	70.4								
KH-13		50.0	22.7	72.7								
School of Law	2											
AL-23		50.0	--	50.0								
AL-24		40.9	--	40.9								
tal for Institution --Unassigned	12			58.4	0				0			
Control	2			54.5	24			33.6	4			40.8
Prefer.	27	43.1	21.0	64.1	3	53.0	14.4	67.4	2	40.9	22.7	63.6

ermanent assignment means the same as control or first preference.

TABLE 19

ANALYSIS OF STUDENT-STATION UTILIZATION BY INSTRUCTIONAL DEPARTMENTS TO WHICH ROOMS ARE PERMANENTLY* ASSIGNED FOR GENERAL CLASSROOMS, TEACHING LABORATORIES, AND OTHERS AT VALPARAISO UNIVERSITY, FALL 1957

	General Classrooms			Teaching Laboratories			Others		
pt. or office which rooms e permanently signed	Number of Student-Stations	Per Cent Station-period Use on 44-hr. Week	Per Cent Station-period Use When Room in Use	Number of Student-Stations	Per Cent Station-period Use on 44-hr. Week	Per Cent Station-period Use When Room in Use	Number of Student-Stations	Per Cent Station-period Use on 44-hr. Week	Per Cen Station-period Use Whe Room in Use
. Unassigned Rooms									
AA-107	39	40.6	66.2						
AA-203	19	31.3	59.9						
FA-5	53	35.0	64.2						
GH-110	70	38.0	50.7						
GG-114	68	27.6	36.8						
GG-116	64	35.6	52.2						
GG-124	95	26.0	35.7						
GG-201	16	15.9	41.1						
GG-202	23	22.6	39.8						
GG-207	16	28.1	53.8						
MB-15	43	30.3	78.5						
MB-17	45	37.0	65.1						
. Art									
BEA							31	31.5	86.6
KH-6-8 (Control)				21	15.1	55.5			
. Biology									
B-1(Control)				36	64.1	88.1			
B-4(Control)				40	54.6	80.1			
B-10	116	25.1	48.1						
B-15	80	13.4	37.0						
B-22(Control)				24	12.5	68.7			
B-23(Control)				20	9.9	39.5			
B-25(Control)				18	17.6	97.2			
. Business and Economics									
AL-31	51	53.3	63.4						
AL-33	62	43.5	58.0						
AL-34	58	39.7	53.0						
GG-203-05				22	33.3	52.4			
. Chemistry									
GG-126 (Control)				27	31.2	68.7			
GG-128 (Control)				35	29.1	64.1			
Sc.-11 (Control)				24	12.2	48.8			
Sc.-15	120	29.4	41.8						
Sc.-24 (Control)				24	14.2	52.0			

(CONTINUED)

*Permanent assignment means the same as control or first preference.

TABLE 19 (CONTINUED)

ANALYSIS OF STUDENT-STATION UTILIZATION BY INSTRUCTIONAL DEPARTMENTS TO WHICH ROOMS ARE PERMANENTLY* ASSIGNED FOR GENERAL CLASSROOMS, TEACHING LABORATORIES, AND OTHERS AT VALPARAISO UNIVERSITY, FALL 1957

	General Classrooms			Teaching Laboratories			Others		
pt. or office which rooms e permanently signed	Number of Student-Stations	Per Cent Station-period Use on 44-hr. Week	Per Cent Station-period Use When Room in Use	Number of Student-Stations	Per Cent Station-period Use on 44-hr. Week	Per Cent Station-period Use When Room in Use	Number of Student-Stations	Per Cent Station-period Use on 44-hr. Week	Per Cen Station-period Use Whe Room in Use
Education									
Sc.-21	64	25.6	51.3						
Sc.-22	45	40.3	36.6						
Sc.-23 (Control)							26	51.3	90.4
Foreign Language									
GG-110	73	26.1	37.0						
GG-112	52	48.3	56.0						
LM-203	42	36.7	50.5						
LM-204	49	36.9	54.1						
LM-303	47	24.8	45.4						
LM-304	42	34.1	60.0						
Geography & Geology									
AL-1(Control)	74	47.0	57.5						
E-1(Control)				20	5.4	80.0			
KH-7-9	57	30.6	46.4						
KH-11	41	30.0	47.2						
Government									
AA-103	26	42.2	56.2						
Home Economics									
GG-218 (Control)				23	39.5	54.3			
HEC(Control)				13	30.0	73.5			
Mathematics									
KH-15-17	41	45.8	74.7						
Music									
M-206(Control)							29	22.8	35.9
M-300				8	22.1	54.0			
Physics									
Sc.-2(Control)				22	56.8	62.5			
Sc.-3A(Control)				8	6.5	47.6			
Sc.-8				32	31.6	66.2			
Sc.-12	63	36.9	56.1						
Psychology									
GG-204-06	60	37.8	66.8						
Speech and Drama									
KH-10	53	31.3	40.5						
KH-34	250	7.8	13.7						
KH-42(Control)				9	9.0	100.0			

(CONTINUED)

ermanent assignment means the same as control or first preference.

TABLE 19 (CONTINUED)

ANALYSIS OF STUDENT-STATION UTILIZATION BY INSTRUCTIONAL DEPARTMENTS TO WHICH ROOMS ARE PERMANENTLY* ASSIGNED FOR GENERAL CLASSROOMS, TEACHING LABORATORIES, AND OTHERS AT VALPARAISO UNIVERSITY, FALL 1957

	General Classrooms			Teaching Laboratories			Others		
pt. or office which rooms e permanently signed	Number of Student-Stations	Per Cent Station-period Use on 44-hr. Week	Per Cent Station-period Use When Room in Use	Number of Student-Stations	Per Cent Station-period Use on 44-hr. Week	Per Cent Station-period Use When Room in Use	Number of Student-Stations	Per Cent Station-period Use on 44-hr. Week	Per Ce Statio period Use Wh Room in Use
. Engineering									
EA-1(Control)				24	13.8	50.6			
EL-23 (Control)							21	23.7	86.9
EL-24 (Control)				12	35.7	75.0			
EL-25 (Control)				12	14.7	72.2			
EL-26 (Control)				12	13.6	66.6			
EL-28 (Control)				12	47.7	87.5			
EL-37 (Control)				12	16.4	80.5			
EL-42 (Control)							22	13.0	81.1
EL-44 (Control)				12	12.5	91.6			
EL-48 (Control)				22	28.5	59.7			
GH-107							61	48.6	53.5
GH-109	39	40.0	67.7						
BH- (Control)	26	22.2	81.7						
KH-12	44	46.6	66.2						
KH-13	39	41.4	56.9						
. Law									
AL-23	45	31.9	63.9						
AL-24	39	20.6	50.4						
otal for Institution									
Unassigned	12	31.7	51.9	0			0		
Control	2	40.5	63.7	24	28.1	68.2	4	28.3	71.4
Prefer.	27	29.8	46.1	3	26.6	56.9	2	42.8	64.6

Permanent assignment means the same as control or first preference.

are based on a 44-hour week, it is noted again that the percentages are approximately 60 per cent less than the University's current student-station usage--31 per cent compared with 30 per cent (Table 19). In the preferred group, the percentage of student-station utilization runs from a high of 75 per cent in Kroencke Hall (KH-15-17), to a low of 37 per cent in Biology Building (B-15), Science Building (Sc.-22) and Greenwich Group (GG-110) because of the lower percentage of student-station utilization in larger rooms.

Table 20 shows the summary of square feet of assignable floor space per 100 hours of student occupancy in the various rooms. It is useful when planning the number of gross square feet per full-time student enrolled. The University could use the overall minimum factor of 1.15 gross square feet per student hour of classroom instruction or approximately 16.5 gross square feet per full-time equivalent student enrolled[3] in comparing the overall area of classrooms required for a given enrollment.

Table 21 shows the summary of assignable square feet of floor area per student-station in rooms for each major purpose and it is noted that in 38 per cent of the general classrooms, the floor space per student-station is from 10 square feet to 14.9 square feet. The tabulation also shows that in 25 per cent of the general classrooms, the floor space per student is less than 10 square feet. In the engineering teaching laboratories, 6 per cent of the laboratory space is more than 200 square feet per student-station because of the laboratory facilities and equipment-space required. The majority of the laboratories have a floor space of 25 square feet to 29.9 square feet per student-station.

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[3] James F. Blakesley, An Evaluation of the Utilization of General Purpose Classrooms at Valparaiso University, Fall Semester 1956-57, (Lafayette, Indiana: November 1, 1957).

TABLE 20

SUMMARY OF SQUARE FEET OF ASSIGNABLE FLOOR SPACE PER 100 HOURS OF STUDENT OCCUPANCY FOR GENERAL CLASSROOMS, TEACHING LABORATORIES, AND OTHERS AT VALPARAISO UNIVERSITY, FALL 1957

Kinds of Instructional Rooms	Number of Rooms	Assignable Square Feet of Floor Space	Hours of Student Occupancy	Square Feet of Floor Space per 100 Hours of Student Occupancy
A. General Classrooms	(41)	(32289)	(31763)	(101.6)
1. AA-103		385	483	79.7
2. AA-107		372	698	53.3
3. AA-203		385	262	146.9
4. AL-1		1325	1532	86.4
5. AL-23		846	633	133.6
6. AL-24		462.5	354	130.6
7. AL-31		503	1198	41.9
8. AL-33		707	1188	59.5
9. AL-34		607	1015	59.8
10. B-10		984	1285	76.5
11. B-15		660	474	139.2
12. FA-5		1273	817	155.8
13. GH-109		840	687	122.2
14. GH-110		1567	1173	133.5
15. GG-110		1311	839	156.2
16. GG-112		923	1107	83.3
17. GG-114		870	828	105.0
18. GG-116		881	1004	87.7
19. GG-124		955	1088	87.7
20. GG-201		208	112	185.7
21. GG-202		167	229	72.9
22. GG-204-6		715	1002	71.3
23. GG-207		212	198	107.0
24. HH		529	255	207.4
25. KH-7-9		753	768	198.0
26. KH-10		628	731	85.9
27. KH-11		634	542	116.9
28. KH-12		590	903	65.3
29. KH-13		631	711	88.7
30. KH-15-17		663	828	80.0

(CONTINUED)

TABLE 20 (CONTINUED)

SUMMARY OF SQUARE FEET OF ASSIGNABLE FLOOR SPACE PER 100 HOURS OF STUDENT OCCUPANCY FOR GENERAL CLASSROOMS, TEACHING LABORATORIES, AND OTHERS AT VALPARAISO UNIVERSITY, FALL 1957

Kinds of Instructional Rooms	Number of Rooms	Assignable Square Feet of Floor Space	Hours of Student Occupancy	Square Feet of Floor Space per 100 Hours of Student Occupancy
31. KH-34		2337	862	271.1
32. L-M-203		701	679	103.2
33. L-M-204		637	796	80.0
34. L-M-303		701	513	136.6
35. L-M-304		669	631	106.0
36. MB-15		855	574	148.9
37. MB-17		1013	733	138.1
38. Sc.-12		1034	1025	100.8
39. Sc.-15		1444	1557	92.7
40. Sc.-21		585	723	80.9
41. Sc.-22		727	726	100.1
B. Teaching Laboratories	(27)	(32063)	(7401)	(433.2)
1. Art-KH-6-8	1	1037	140	740.7
2. Biology	5			
a. B-1		952	1016	93.7
b. B-4		949	962	98.6
c. B-22		1050	132	795.4
d. B-23		671	87	771.2
e. B-25		675	140	482.1
3. Business and Economics-GG-203	1	728	323	225.3
4. Chemistry				
a. GG-126	4	977	371	263.3
b. GG-128		1340	449	298.4
c. SC.-11		1024	129	793.7
d. SC-24		2139	150	1426.0
5. Geography & Geology E 1	1	2209	48	4602.0
6. Home Economics	2			
a. GG-218		924	400	231.0
b. HEC		360	172	209.3

(CONTINUED)

TABLE 20 (CONTINUED)

SUMMARY OF SQUARE FEET OF ASSIGNABLE FLOOR SPACE PER 100 HOURS OF STUDENT OCCUPANCY FOR GENERAL CLASSROOMS, TEACHING LABORATORIES, AND OTHERS AT VALPARAISO UNIVERSITY, FALL 1957

Kinds of Instructional Rooms	Number of Rooms	Assignable Square Feet of Floor Space	Hours of Student Occupancy	Square Feet of Floor Space per 100 Hours of Student Occupancy
7. Music-M-300	1	1734	662	261.9
8. Physics	3			
a. Sc.-2		1139	550	207.0
b. Sc.-3A		459	23	1995.0
c. Sc.-8		984	445	221.1
9. Speech & Drama-KH-42	1	232	36	644.4
10. Engineering	8			-
a. EA-1		5400	146	3698.6
b. EL-24		444	189	234.9
c. EL-25		328	78	420.5
d. EL-26		218	72	302.7
e. EL-28		2029	252	805.1
f. EL-37		2719	87	3125.2
g. EL-44		330	66	500.0
h. EL-48		1012	276	366.6
C. Other Rooms	(6)	(3805)	(2961)	(128.5)
BEA		520	430	120.9
EL-23		660	219	301.3
EL-42		335	126	265.8
GH-107		1562	1306	119.6
M-206		347	292	118.8
Sc.-23		381	588	64.8
All Rooms Combined	74	68157	42125	161.7

TABLE 21

SUMMARY OF ASSIGNABLE SQUARE FEET OF FLOOR AREA PER STUDENT-STATION IN ROOMS FOR EACH MAJOR PURPOSE FOR GENERAL CLASSROOMS, TEACHING LABORATORIES, AND OTHERS AT VALPARAISO UNIVERSITY, FALL 1957

No. of Assignable Square Feet per Student Station	Stations in Gen. Class-rooms		Stations in Teaching Laboratories																			
			Art		Biol.		B.&E.		Chem.		G.&GE.		H.E.		Mu.		Phy.		S.&D.		Engr.	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
9 or less	600	25.6																				
10-14.9	897	38.1																				
15-19.9	600	25.6																			12	1.9
20-24.9	252	10.7			40	6.6																
25-29.9					36	6.0							13	2.2	68	11.2			9	1.5	24	4.0
30-39.9					38	6.3	22	3.7	62	10.3							32	5.3			12	1.9
40-49.9					24	4.0			24	4.0			23	3.8							22	3.6
50-59.9																	30	5.0				
60-79.9			21	3.5																		
80-99.9									24	4.0												
100-124.9											20	3.3										
125-149.9																						
150-174.9																					12	1.9
175-199.9																						
200 or more																					36	6.0
Total	2349	100.0	21	3.5	138	22.9	22	3.7	110	18.3	20	3.3	36	6.0	68	11.2	62	10.3	9	1.5	118	19.3
Av. (M)	587	25.0	21	3.5	34.5	5.7	22	3.7	36.6	6.1	20	3.3	18	3.0	68	11.2	31	5.1	9	1.5	19.6	3.2

(CONTINUED)

TABLE 21 (CONTINUED)

SUMMARY OF ASSIGNABLE SQUARE FEET OF FLOOR AREA PER STUDENT-STATION IN ROOMS FOR EACH MAJOR PURPOSE FOR GENERAL CLASSROOMS, TEACHING LABORATORIES, AND OTHERS AT VALPARAISO UNIVERSITY, FALL 1957

No. of Assignable Square Feet per Student Station	Stations in Gen. Class-rooms		Stations in Other Rooms							
			Art		Educ.		Music		Engr.	
	No.	%	No.	%	No.	%	No.	%	No.	%
9 or less										
10-14.9					26	13.7	29	15.3		
15-19.9			31	16.3					22	11.6
20-24.9										
25-29.9									61	32.1
30-39.9									21	11.0
40-49.9										
50-59.9										
60-79.9										
80-99.9										
100-124.9										
125-149.9										
150-174.9										
175-199.9										
200 or more										
Total			31	16.3	26	13.7	29	15.3	104	54.7
Av. (M)			31	16.3	26	13.7	29	15.3	34.6	18.2

"Data obtained from a space utilitzation study generally have greater meaning to an institution if comparisons can be made with the experiences of other institutions in the use of their plant facilities. Such comparisons require normative data based on strictly comparable statistics from studies of space utilization in a substantial number of colleges and universities."[4]

ROOM-PERIOD UTILIZATION COMPARISONS

In this study the data published in the Manual[5], the data published by Russell and Jamrich in their Space Utilization and Value of Physical Plants in Michigan Institutions of Higher Education[6], and the data published in the Survey of Physical Facilities at Wisconsin State College and the University of Wisconsin[7] have been used. Due to the fact that, at this time, few space studies have been made as outlined in the Manual, the utilization data as presented in the Space Utilization and Value of Physical Plants (Staff Study No. 9)[8], which followed the form suggested in the Manual in compiling its data, are presented in the following tables for examination in order to observe the similarities and/or differences. Again, it is realized that the data as tabulated for the University would have much more effect if it could be compared with a number of other institutions of comparable size.

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[4] John Dale Russell and James I. Doi, Manual for Studies of Space Utilization in Colleges and Universities. Athens, Ohio: American Association of Collegiate Registrars and Admissions Officers, 1957.

[5] Ibid

[6] John Dale Russell and John X. Jamrich, Space Utilization and Value of Physical Plants in Michigan Institutions of Higher Education, The Survey of Higher Education in Michigan, Staff Study No. 9, Prepared for the Michigan Legislative Study Committe on Higher Education (Lansing: Legislative Study Committee, June 1958), pp. 37-84.

[7] Wisconsin. Joint Staff of Coordinating Committee for Higher Education, Survey of Physical Facilities at Wisconsin State Colleges and University of Wisconsin Fall, 1956, Research Study VI, Part I (Charts) (Madison: Coordinating Committee for Higher Education, April, 1958), Charts 6, 8, 14, and 16.

[8] Russell and Jamrich

GENERAL CLASSROOMS

Table 22 shows that the room-period utilization of Valparaiso University places it in the 80-percentile point in the table of norms. This means that Valparaiso University has a rate of utilization that is higher than 80 per cent of the institutions in the representative group, and in comparing its rank with the Michigan institutions and the Wisconsin institutions, it is in the same group as the University of Michigan and the University of Wisconsin.

In the Michigan institutions, the room-period use by the days of the week are greater on Monday, Wednesday, and Friday than on Tuesday, Thursday, and Saturday, (Table 23). This pattern of greater use of Monday, Wednesday, and Friday is also prevelant at Valparaiso University. The average percentage of room-period use on Tuesday and Thursday at the Michigan institutions is greater than at Valparaiso University. The state and privately controlled institutions in Michigan have a much greater use of room-period utilization on Saturdays than does Valparaiso. According to Table 23, it is also noted that the maximum average percentages of room-period utilization at Michigan institutions are for Monday while at Valparaiso University, Wednesday is the day that has the maximum percentage of room-period utilization. The minimum average percentages of the Michigan institutions occur most frequently on Thursday (state-controlled) and Friday (privately-controlled and community). At Valparaiso University, the minimum percentage occurs on Thursday.

Table 24 shows that the percentage of room-period occupancy, beginning at the 3 o'clock hour, is definitely much lower than at any other hour in the day. The 9 o'clock hour has the greatest percentage of room-period occupancy at Valparaiso University. The use of the 9 o'clock hour exists also at the state

[text continued on page 45]

TABLE 22

COMPARISON OF ROOM-PERIOD UTILIZATION FOR GENERAL CLASSROOMS AMONG MICHIGAN INSTITUTIONS, FALL 1956, WISCONSIN UNIVERSITY AND STATE INSTITUTIONS, FALL 1956, AND VALPARAISO UNIVERSITY, FALL 1957.

Percentile Rank*	Institution	Average number Periods Used Per Week
99		
	Central Michigan College	28.6
	Ferris Institute	30.5
	Michigan State University	28.7
	Wayne State University	30.3
	P-25 (62 rooms)**	37.9
	P-20 (26 rooms)**	31.0
	Henry Ford Com. College	33.2
	Northwestern Com. College	32.3
90		
	Valparaiso University	27.2
	Eastern Michigan College	28.4
	University of Michigan	26.4
	P-37 (22 rooms)**	26.7
	Bay City Com. College	26.5
	Flint Com. College	27.8
	University of Wisconsin	26.9
80		
	Western Michigan University	24.7
	P-18 (12 rooms)**	23.8
	Highland Park Com. College	23.7
	Muskegon Com. College	25.5
	Port Huron Com. College	24.8
	Wisconsin State College-Whitewater	23.4
	Wisconsin State College-Stevens Point	23.5
70		
	Michigan College of Mining & Tech.(Houghton)	23.1
	Grand Rapids Com. College	22.4
	Wisconsin State College - Eau Claire	22.4
	Wisconsin State College - Superior	22.6
60		
	P-13 (23 rooms) **	21.6
	Wisconsin State College-River Falls	20.5
	Wisconsin Institute of Technology	20.5
	Wisconsin State College-LaCrosse	21.1
50		
	Northern Michigan College	20.1
	Jackson Com. College	19.6
40		
	P-40 (24 rooms) **	18.5
	P-27 (20 rooms) **	18.8
	Stout StateCollege	19.1

(CONTINUED)

TABLE 22 (CONTINUED)

COMPARISON OF ROOM-PERIOD UTILIZATION FOR GENERAL CLASSROOMS AMONG MICHIGAN INSTITUTIONS, FALL 1956, WISCONSIN UNIVERSITY AND STATE INSTITUTIONS, FALL 1956, AND VALPARAISO UNIVERSITY, FALL 1957.

Percentile Rank*	Institutions	Average number Periods Used Per Week
30		
	Michigan College of Mining & Tech.(Sault)	16.2
	P-10 (31 rooms)**	17.4
	Benton Harbor Com. College	16.3
	Wisconsin State College-Platteville	16.3
	Wisconsin State College-Oshkosh	16.5
20		
	Battle Creek Com. College	14.2
10		
	P-15 (17 rooms)**	13.1
	P-31 (22 rooms)**	13.0
	P-36 (15 rooms)**	11.6
	P-35 (12 rooms)**	9.8
1		

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*Based on norms from Manual for Studies of Space Utilization in Colleges and Universities, John Dale Russell and James I. Doi, p. 97

**Private colleges in Michigan not identified by name. However, we shall identify each by the number of rooms reported. P-15--17; P-40--24; P-27--20; P-13--23; P-10--31; P-31--22; P-37--22; P-18--12; P-36--15; P-35--12; P-25--62; P-20--26.

TABLE 23

COMPARISON OF THE AVERAGE PERCENTAGE OF POSSIBLE ROOM-PERIOD UTILIZATION OF GENERAL CLASSROOMS BY DAYS OF THE WEEK AT MICHIGAN INSTITUTIONS, FALL 1956, BASED ON 44-PERIOD WEEK WITH THE PERCENTAGE AT VALPARAISO UNIVERSITY, FALL 1957

Institution	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday A.M.
Valparaiso Univ.	82.6	51.8	84.7	45.4	75.9	1.2
Michigan Instit. State Controlled	76.2	61.8	68.7	61.9	64.3	13.5
Privately Controlled	63.5	56.8	59.6	55.3	49.7	14.4
Community	73.1	62.3	65.2	57.8	57.4	3.6

TABLE 24

COMPARISON OF THE AVERAGE PERCENTAGE OF POSSIBLE ROOM-PERIOD OCCUPANCY OF GENERAL CLASSROOMS BY HOURS OF THE DAY AT MICHIGAN INSTITUTIONS, FALL 1956, BASED ON 44-PERIOD WEEK, WITH THE PERCENTAGE AT VALPARAISO UNIVERSITY, FALL 1957

Institution	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6
Valparaiso Univ.		59.3	77.6	72.3	54.0	64.3	72.6	56.5	19.0		
Michigan Instit. State Controlled	0.3	52.3	64.3	63.6	58.8	26.8	63.0	59.0	41.3	21.9	10.2
Privately Controlled	0.6	48.1	54.0	47.7	49.8	38.0	46.3	39.5	22.9	10.5	5.9
Community	2.3	42.6	52.1	51.9	46.1	35.9	57.3	38.2	22.2	11.5	9.2

and privately controlled institutions in Michigan, but in the community institutions of Michigan, the 1 o'clock hour is the maximum hour for use. It definitely shows that Valparaiso University uses the noon hour to a much greater degree than do the Michigan institutions. Since this study was made, Valparaiso University has abandoned the noon hour period. It might be that, before future needs are required, Valparaiso should revert back to the use of the noon hour. The early hour, 7 o'clock, is used to a very small degree and here, too, Valparaiso might make better distribution of the use of the hours of the day.

Table 25 shows that at Valparaiso University, the rooms with the highest percentage of utilization are those seating 81-100 students. However, in this group, there is only one room of this size,(Table 6). The second largest number of rooms at Valparaiso University are those seating 61-80 students (Table 6) which has a utilization percentage of 66.4. For the state-controlled group in the Michigan institutions, the highest percentage of utilization is also in the group seating 61-80 students. The largest number of rooms at Valparaiso University are those seating 41-50 students which has a utilization percentage of 59.7.

TEACHING LABORATORIES

Tables 26 through 29, showing the room-period utilization in teaching laboratories, are analyzed on the same basis as those tables (22 through 25) for general classrooms given above.

In Table 26, it is noted that the room-period utilization of Valparaiso University places it in the 40-percentile rank. Again, this means that Valparaiso University has a rate of utilization that is higher than 40 per cent of the representative institutions but lower than 60 per cent of those institutions in the norms. It is noted that we are in the same group as, for example, Michigan State University and Western Michigan University.

Table 27 shows that at Valparaiso University the room-period use by the days of the week is greater on Tuesday and Thursday than on any other day of the week. The same holds true for the state-controlled institutions in Michigan, while Tuesday and Wednesday are used to a greater extent in the privately-controlled and community institutions in Michigan. The minimum percentage occurs on Friday at Valparaiso University as well as at the Michigan institutions. The use of Saturday is almost non-existent except for the state-controlled institutions in Michigan.

At Valparaiso University and at the Michigan institutions, it is noted in Table 28 that the afternoon hours have a higher percentage of room-period occupancy than do the morning hours. At these institutions, the peak hour of the day is the 2 o'clock hour while the least used hour at Valparaiso University is the 11 o'clock period and at the Michigan institutions, it is the noon period. Little or no use is made of the early morning or late afternoon hours. At Valparaiso University and at the privately-controlled institutions in Michigan, the percentages of use of the morning hours are much less than at the state-controlled institutions in Michigan.

Table 29 indicates that at Valparaiso University the highest percentages of utilization are those with 21-30 student-stations and with 31-40 student-stations. Of the twenty-seven teaching laboratories, twenty of these rooms (Table 16) fall within the range of 21-40 student-stations. In the Michigan institutions, the rooms with 31-40 student-stations show most frequently the maximum usage, although the maximum average is for the rooms with 101-150 student-stations. The lowest percentage of utilization at both Valparaiso University and the Michigan institutions is in rooms of 1-10 student-stations.

TABLE 25

COMPARISON OF THE AVERAGE PERCENTAGE OF POSSIBLE ROOM-PERIOD UTILIZATION OF GENERAL CLASSROOMS OF EACH SIZE AT MICHIGAN INSTITUTIONS, FALL 1956, BASED ON 44-PERIOD WEEK, WITH THE PERCENTAGE AT VALPARAISO UNIVERSITY, FALL 1957.

	Number of Student Stations in Room											
Institution	1-10	11-20	21-30	31-40	41-50	51-60	61-80	81-100	101-150	151-200	201-250	251 & up
Valparaiso Univ.		47.7	53.0	58.5	59.7	71.4	66.4	72.7	61.3		56.8	
Michigan Inst. State-Controlled	46.1	33.3	54.4	66.5	65.5	64.5	70.0	57.7	60.2	52.8	63.1	48.3
Privately Controlled	18.8	34.6	48.8	48.1	62.2	66.5	56.5	59.2	67.3	31.8	101.1	86.4
Community	9.1	26.1	55.0	58.6	66.2	59.7	50.7	55.7	54.5			

TABLE 26

COMPARISON OF ROOM-PERIOD UTILIZATION FOR TEACHING LABORATORIES AMONG MICHIGAN INSTITUTIONS, FALL 1956, WISCONSIN UNIVERSITY AND STATE INSTITUTIONS, FALL 1956, AND VALPARAISO UNIVERSITY, FALL 1957.

Percentile Rank*	Institution	Average Number Periods Used Per Week
99		
	University of Michigan	27.7
	P-18 (6 rooms)**	25.6
	Bay City Com. College	28.9
	Henry Ford Com. College	27.7
	Muskegon Com. College	29.8
	Stout State College	25.2
90		
	Central Michigan College	21.8
	Ferris Institute	23.6
	University of Wisconsin	24.0
	Wisconsin State College-Stevens Point	22.3
80		
	Highland Park Com. College	20.7
	Wisconsin State College-LaCrosse	20.1
	Wisconsin State College-Eau Claire	19.9
70		
	Wayne State University	19.1
	Port Huron Com. College	18.5
60		
	Michigan College of Mining & Tech. (Sault)	18.0
	P-37 (12 rooms)**	17.2
	Flint Com. College	17.1
	Grand Rapids Com. College	17.8
	Wisconsin State College - Superior	17.7
50		
	Wisconsin State College-Whitewater	16.0
	Wisconsin State College-Oshkosh	16.6
	Wisconsin State College-River Falls	16.8
	Michigan College of Mining & Tech.(Houghton)	15.9
	Michigan State University	16.6
	Western Michigan University	16.2
	P-25 (54 rooms)**	16.7
	Northwestern Com. College	16.7
	Valparaiso University	16.4

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*Based on norms from Manual for Studies of Space Utilization in Colleges and Universities, John Dale Russell and James I. Doi, p.97.

**Private colleges in Michigan not identified by name. However, we shall identify each by the number of rooms reported.

TABLE 26 (CONTINUED)

COMPARISON OF ROOM-PERIOD UTILIZATION FOR TEACHING LABORATORIES AMONG MICHIGAN INSTITUTIONS, FALL 1956, WISCONSIN UNIVERSITY AND STATE INSTITUTIONS, FALL 1956, and VALPARAISO UNIVERSITY, FALL 1957.

Percentile Rank*	Institution	Average Number Periods Used Per Week
40		
	Eastern Michigan College	14.3
	P-27 (9 rooms)**	13.0
	P-13 (22 rooms)**	14.0
	Jackson Com. College	14.3
	Wisconsin State College-Platteville	14.6
30		
	Northern Michigan College	10.9
	P-40 (10 rooms)**	11.3
	Benton Harbor Com. College	11.2
	Wisconsin Inst. of Technology	10.0
20		
	P-15 (12 rooms)**	8.8
10		
	P-10 (24 rooms)**	7.1
	P-31 (14 rooms)**	5.6
	P-36 (9 rooms)**	7.3
1		

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*Based on norms from Manual for Studies of Space Utilization in Colleges and Universities, John Dale Russell and James I. Doi, p. 97.

**Private colleges in Michigan not identified by name. However, we shall identify each by the number of rooms reported.

TABLE 27

COMPARISON OF THE AVERAGE PERCENTAGE OF POSSIBLE ROOM-PERIOD UTILIZATION OF TEACHING LABORATORIES BY DAYS OF THE WEEK AT MICHIGAN INSTITUTIONS, FALL 1956, BASED ON 44-PERIOD WEEK, WITH THE PERCENTAGE AT VALPARAISO UNIVERSITY, FALL 1957

Institution	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday A.M.
Valparaiso Univ.	36.5	50.9	39.8	49.0	29.6	0.0
Michigan Inst. State Controlled	47.2	50.5	47.4	48.4	38.6	13.3
Privately Controlled	33.6	34.2	35.8	31.4	23.5	2.8
Community	53.6	54.4	55.2	50.1	37.4	1.7

TABLE 28

COMPARISON OF THE AVERAGE PERCENTAGE OF POSSIBLE ROOM-PERIOD OCCUPANCY OF TEACHING LABORATORIES BY HOURS OF THE DAY AT MICHIGAN INSTITUTIONS, FALL 1956, BASED ON 44-PERIOD WEEK, WITH THE PERCENTAGE AT VALPARAISO UNIVERSITY, FALL 1957.

Institution	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6
Valparaiso Univ.		19.7	26.5	21.6	15.4	34.0	48.1	55.5	44.4		
Michigan Instit. State Controlled	0.8	32.2	38.0	39.5	35.1	10.8	39.8	49.1	44.8	32.7	9.7
Privately Controlled	0.3	14.6	19.9	19.4	17.2	13.4	30.2	36.0	29.5	17.0	2.6
Community	2.6	31.1	37.8	33.8	29.5	22.2	39.2	46.3	35.7	27.2	9.1

TABLE 29

COMPARISON OF THE AVERAGE PERCENTAGE OF POSSIBLE ROOM-PERIOD UTILIZATION OF TEACHING LABORATORIES OF EACH SIZE AT MICHIGAN INSTITUTIONS, FALL 1956, BASED ON 44-PERIOD WEEK, WITH THE PERCENTAGE AT VALPARAISO UNIVERSITY, FALL 1957

	Number of Student Stations in Room											
Institution	1-10	11-20	21-30	31-40	41-50	51-60	61-80	81-100	101-150	151-200	201-250	251 & up
Valparaiso Univ.	11.3	26.8	44.5	58.5			40.9					
Michigan Inst. State Controlled	17.5	38.3	46.4	54.3	54.4	52.3	50.4	39.8	63.9	65.9		
Privately Controlled	3.1	19.4	31.8	50.8	65.5	49.3	35.8		44.7			
Community	9.8	29.5	48.6	57.5	30.4		63.6					

RECAPITULATION OF ROOM-PERIOD UTILIZATION COMPARISONS

GENERAL CLASSROOMS

1. The room-period utilization of Valparaiso University is very high in the representative group. It is in the same group as the University of Michigan and the University of Wisconsin.
2. As in the Michigan institutions, the room-period use at Valparaiso University is greater on Monday, Wednesday, and Friday than on Tuesday and Thursday.
3. The average percentage of use on Tuesday and Thursday at the Michigan institutions is greater than at Valparaiso University.
4. The maximum average percentages of utilization at Michigan institutions are for Monday, while at Valparaiso University, Wednesday is the day that has the best utilization. The minimum at Michigan institutions falls on Thursday and Friday compared to Thursday at Valparaiso University.
5. Beginning at the 3 o'clock hour, the percentage of occupancy is lower than at any other hour. The 9 o'clock hour has the greatest percentage of occupancy at Valparaiso University as well as at the state and privately controlled institutions in Michigan.
6. The largest number of rooms at Valparaiso University are those seating 41-50 students. This group has a utilization percentage of 59.7. The second largest group at Valparaiso University are those seating 61-80 students. This group has a utilization percentage of 66.4 as compared to the 70 per cent of the state-controlled group in the Michigan institutions.

TEACHING LABORATORIES

1. The utilization at Valparaiso University is lower than 60 per cent of those institutions in the representative group. It is in the same group as Michigan State University and Western Michigan University.
2. The use of the laboratories are greater on Tuesday and Thursday than on any other day of the week. The same holds true for the state-controlled institutions in Michigan while Tuesday and Wednesday are used to a greater extent in the privately-controlled and community institutions in Michigan.
3. The minimum percentage of utilization occurs on Friday at Valparaiso University as well as at the Michigan institutions. The use of Saturday is almost non-existent except for the state-controlled institutions in Michigan.
4. At Valparaiso University and at the Michigan institutions, the afternoon hours have a higher percentage of occupancy than do the morning hours. At these institutions, the peak hour of the day is the 2 o'clock hour.
5. The highest percentage of utilization is most frequently found in rooms with 21-30 student-stations and with 31-40 student-stations. The lowest percentage of utilization at both Valparaiso University and the Michigan institutions is in rooms of 1-10 student-stations.

STUDENT-STATION UTILIZATION COMPARISONS

As in the case of the room-period utilization comparisons, the utilization data in the Space Utilization and Value of Physical Plants (Staff Study No. 9)[9] and the Survey of Physical Facilities at Wisconsin State Colleges and University of Wisconsin Fall, 1956[10] again are used for comparison purposes.

GENERAL CLASSROOMS

Table 30, as in Table 22, shows the student-station utilization rates as compared with those in the representative group. Here, again, it is seen that in the case of Valparaiso University, 70 per cent of the representative groups throughout the country have a lower average number of hours of use per week than does Valparaiso, but only 30 per cent of this same representative group has a lower percentage of student-station use,when the rooms are in use, than at Valparaiso University. It is evident that Valparaiso University does not utilize the student-stations as intensively as it should. Consequently, for better utilization of existing facilities, Valparaiso University should attempt to increase the size of its classes or else cut the rooms down to a more economical size. If the latter suggestion would be followed, it would increase its number of rooms without having to build new classrooms.

Table 31 shows the comparative data on the student-station-period utilization by days of the week. From the table it is seen that in the Michigan institutions, Monday is the day on which the maximum utilization occurs as compared to Wednesday at Valparaiso University. The minimum is on Thursday at Valparaiso University as well as at the state-controlled and community institutions in Michigan, while the minimum in the privately-controlled institutions is on Friday.

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[9] Russell and Jamrich, pp. 85-129

[10] Wisconsin.Joint Staff of Coordinating Committee for Higher Education, Charts 7, 9, 15, and 17.

TABLE 30

COMPARISON OF STUDENT-STATION UTILIZATION FOR GENERAL CLASSROOMS AMONG MICHIGAN INSTITUTIONS, FALL 1956, WISCONSIN UNIVERSITY AND STATE INSTITUTIONS, FALL 1956, AND VALPARAISO UNIVERSITY, FALL 1957

Percentile Rank*	Institution	Average Hours of Use Per Week
99		
	Central Michigan College	18.9
	Ferris Institute	19.7
	P-37(1,281 student-stations)**	18.3
	P-25(3,047 student-stations)**	22.6
	Bay City Com. College	19.3
	Henry Ford Com. College	22.9
	Northwestern Com. College	19.0
90		
	Michigan State University	15.4
	Wayne State University	17.1
	Western Michigan University	16.6
	P-20(1,394 student-stations)**	16.0
	Flint Com. College	17.7
	Highland Park Com. College	17.2
	Muskegon Com. College	15.2
80		
	Eastern Michigan College	15.0
	Port Huron Com. College	14.5
	Valparaiso University	13.5

Percentile Rank*	Institution	Percentage of Station Use When Room in Use
99		
90		
	Western Michigan Univ.	66.2
	Battle Creek Com. College	67.9
	Bay City Com. College	72.1
	Henry Ford Com. College	68.9
	Highland Park Com. College	72.4
80		
	Central Michigan College	64.4
	Ferris Institute	64.9
	P-15(476 student-stations)**	65.0
	P-37(1,281 student-stations)**	61.6
	Flint Com. College	63.1
	Jackson Com. College	64.3
	Wisconsin State College-Stevens Point	65.3
	Wisconsin State College-Platteville	64.3
	Wisconsin State College-Whitewater	63.9

(CONTINUED)

TABLE 30 (CONTINUED)

COMPARISON OF STUDENT-STATION UTILIZATION FOR GENERAL CLASSROOMS AMONG MICHIGAN INSTITUTIONS, FALL 1956, WISCONSIN UNIVERSITY AND STATE INSTITUTIONS, FALL 1956, AND VALPARAISO UNIVERSITY, FALL 1957

Percentile Rank*	Institution	Average Hours of Use Per Week
70		
	Jackson Com. College	12.4
	Mich. Col. of Min. & Tech. (Houghton)	12.7
	University of Michigan	13.3
	P-27(776 student-stations)**	12.2
	P-18(309 student-stations)**	12.3
	Grand Rapids Com. College	12.8
60		
	P-13(1,015 student-stations)**	11.9

Percentile Rank*	Institution	Percentage of Station Use When Room in Use
70		
	Wisconsin State College-LaCrosse	58.2
	Michigan Col. of Min. & Tech. (Houghton)	57.2
	Michigan Col. of Min. & Tech. (Sault)	61.0
	P-27(776 student-stations)**	57.5
	P-10(1,313 student-stations)**	60.1
	Port Huron Com. College	58.0
	Wisconsin State College-Eau Claire	60.5
	Wisconsin State College-River Falls	58.8
	Stout State College	58.8
60		
	Eastern Michigan College	53.4
	Michigan State University	54.7
	P-35(441 student-stations)**	54.4
	P-25(3,047 student-stations)**	57.1
	Benton Harbor Com. College	56.4
	Grand Rapids Com. College	55.6
	Muskegon Com. College	56.7
	Northwestern Com. College	55.7

(CONTINUED)

TABLE 30 (CONTINUED)

COMPARISON OF STUDENT-STATION UTILIZATION FOR GENERAL CLASSROOMS AMONG MICHIGAN INSTITUTIONS, FALL 1956, WISCONSIN UNIVERSITY AND STATE INSTITUTIONS, FALL 1956, AND VALPARAISO UNIVERSITY, FALL 1957

Percentile Rank*	Institution	Average Hours of Use Per Week
50		
	Mich. Col. of Min. & Tech. (Sault)	10.1
	Northern Michigan College	10.8
	P-10(1,313 student-stations)**	9.8
	Benton Harbor Com. College	9.9
40		
	P-15(476 student-stations)**	9.5
	P-40(1,058 student-stations)**	9.7
	Battle Creek Com. College	9.7
30		
20		
	P-36(515 student-stations)**	6.8
10		
	P-31(1,184 student-stations)**	5.9
	P-35(441 student-stations)**	5.3
1		

Percentile Rank*	Institution	Percentage of Station Use When Room in Use
50		
	Wisconsin State College-Superior	51.5
	Wisconsin State College-Oshkosh	51.5
	University of Michigan	50.7
	University of Wisconsin	50.0
	Wayne State University	53.1
	P-13(1,015 student-stations)**	52.1
	P-36(515 student-stations)**	51.8
	P-20(1,394 student-stations)**	51.1
	Northern Mich. College	52.5
40		
	Valparaiso University	48.7
	P-40(1,058 student-stations)**	47.1
	P-18(309 student-stations)**	47.9
	Wisconsin Inst. of Tech.	49.1
30		
	P-31(1,184 student-stations)**	44.6
20		
10		
1		

*Based on norms from Manual for Studies of Space Utilization in Colleges and Universities, John Dale Russell and James I. Doi, pp. 99 and 100.

**Private colleges in Michigan not identified by name. However, we shall identify each by the number of student-stations reported. P-15--476; P-40--1,058; P-27--776; P-13--1,015; P-10--1,313; P-31--1,184; P-37--1,281; P-18--309; P-36--515; P-35--441; P-25--3,047; P-20--1,394.

TABLE 31

COMPARISON OF THE AVERAGE PERCENTAGE OF POSSIBLE STUDENT STATION-PERIOD UTILIZATION IN GENERAL CLASSROOMS BY DAYS OF THE WEEK AT MICHIGAN INSTITUTIONS, FALL 1956, BASED ON 44-PERIOD WEEK, WITH THE PERCENTAGE AT VALPARAISO UNIVERSITY, FALL 1957.

Institution	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday A.M.
Valparaiso Univ.	41.9	25.2	42.4	21.8	37.7	0.11
Michigan Inst. State Controlled	42.7	33.6	38.5	33.3	36.6	5.9
Privately Controlled	39.3	33.4	37.0	32.3	30.5	7.2
Community	46.7	39.4	41.8	36.9	37.6	1.9

Table 32 shows that the 9 o'clock hour is the one with the largest percentage of student-stations occupied at the state-controlled and privately-controlled institutions while at Valparaiso University the 10 o'clock hour is the largest one, and at the community colleges the 1 o'clock hour is the largest one. The lowest percentage occurs in the late afternoon hours (3:00 P.M.) and also the noon period at the state-controlled institutions in Michigan.

Table 33 shows that the rooms with 51-60 student-stations have the greatest percentage of utilization at Valparaiso University and at the privately-controlled institutions in Michigan. The greatest average percentage of utilization at the state-controlled institutions and the community colleges is the rooms with 21-30 student-stations and 31-40 student-stations respectively. At the Michigan institutions and at Valparaiso University, the utilization of rooms with 20 student-stations or less is considerably lower than for those rooms with 31-60 student-stations, although the distribution is not quite so great in the privately-controlled institutions. Thus, if Valparaiso University should wish to construct new classrooms or change its current classrooms, it should find that this table will be very useful in determining the size most suited to its particular needs.

TEACHING LABORATORIES

Table 34 shows that, in the average hours of use per week, Valparaiso University ranks in the 60th percentile on the norms published by Russell and Doi. In the Michigan institutions, Valparaiso University ranks in the same percentile group as seven other institutions while seven additional institutions rank in the 70th percentile. Of the seven institutions in the 70th percentile, three represent state-controlled schools; three represent community schools; and only one represents privately-controlled institutions. Valparaiso University ranks in the 50th percentile on the norms for the percentage of station use when the rooms are in use. Again, in comparing Valparaiso University with those in Michigan and Wisconsin, it is seen that a total of eight institutions out of a group of forty-one fall into this same range--50th percentile. The University of Michigan's low ranking in the utilization of student-stations when the rooms are in use can be explained by the fact they have included a fairly large number of specialized research laboratories which are used by one or two graduate students, and the high ranking of the Michigan community colleges is due to the fact that their programs are limited to freshman and sophomore courses.[11]

Table 35 shows that in the utilization of student-stations by days of the week, the highest rate varies with the different institutions. The highest percentage occurs on Thursday at Valparaiso University, while at the state-controlled institutions it occurs on Tuesday, and at the privately-controlled and community institutions, it occurs on Wednesday. The lowest percentage occurs on Friday at both Valparaiso University and the Michigan institutions.

From the data in Table 36, it is noted that the highest percentages of student-station utilization occurs at all institutions in the afternoon hours with the two o'clock hour having the highest percentage at each of these institutions. The morning hours have a much lower percentage of utilization except at the Michigan community colleges. The percentages of utilization of the ten o'clock and eleven o'clock periods are very similar between Valparaiso University and the Michigan privately-controlled institutions.

Table 37 indicates that the highest percentage of utilization occurs for rooms with 31-40 student-stations at Valparaiso University as well as at the Michigan institutions. The next highest percentage of utilization occurs for rooms with 21-30 student-stations at Valparaiso University and at Michigan state-controlled and community institutions. The second highest percentage at Michigan privately-controlled institutions occurs for rooms with 51-60 student-stations. Again, the data found in this table will be of the utmost value if Valparaiso University should desire to build new laboratories or to change its existing facilities.

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[11] Russell and Jamrich, pp. 112 and 114

TABLE 32

COMPARISON OF THE AVERAGE PERCENTAGE OF POSSIBLE STUDENT STATION-PERIOD UTILIZATION IN GENERAL CLASSROOMS BY HOURS OF THE DAY AT MICHIGAN INSTITUTIONS, FALL 1956, BASED ON 44-PERIOD WEEK, WITH THE PERCENTAGE AT VALPARAISO UNIVERSITY, FALL 1957.

Institution	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6
Valparaiso Univ.		32.5	38.9	40.1	26.8	31.6	35.1	22.4	8.5		
Michigan Instit.											
State Controlled	0.2	29.9	37.8	36.9	34.1	15.5	35.4	31.9	19.4	9.8	4.3
Privately Controlled	0.2	28.6	33.7	30.2	30.3	24.7	27.0	20.4	12.0	4.6	2.3
Community	1.5	30.1	35.7	34.4	31.3	24.4	37.7	29.6	12.7	5.8	4.7

TABLE 33

COMPARISON OF THE AVERAGE PERCENTAGE OF POSSIBLE STUDENT STATION-PERIOD UTILIZATION OF GENERAL CLASSROOMS OF EACH SIZE AT MICHIGAN INSTITUTIONS, FALL 1956, BASED ON 44-PERIOD WEEK, WITH THE PERCENTAGE AT VALPARAISO UNIVERSITY, FALL 1957.

	Number of Student Stations in Room											
Institution	1-10	11-20	21-30	31-40	41-50	51-60	61-80	81-100	101-150	151-200	201-250	251 & up
Valparaiso Univ.		25.4	29.3	35.7	35.4	39.2	32.3	26.0	27.3		7.8	
Michigan Instit. State Controlled	27.6	26.8	42.2	41.3	37.3	37.2	32.4	26.2	24.7	26.6	24.0	23.1
Privately Controlled	12.8	24.2	33.7	29.8	34.8	39.6	30.0	27.4	38.8	7.2	27.0	22.1
Community	2.4	5.5	34.5	43.8	36.6	42.9	17.6	17.2	34.3			

TABLE 34

COMPARISON OF STUDENT STATION UTILIZATION FOR TEACHING LABORATORIES AMONG MICHIGAN INSTITUTIONS, FALL 1956, WISCONSIN UNIVERSITY AND STATE INSTITUTIONS, FALL 1956, AND VALPARAISO UNIVERSITY, FALL 1957.

Percentile Rank*	Institution	Average Hours of Use Per Week	Percentile Rank*	Institution	Percentage of Station Use When Room in Use
99			99		
	Bay City Com. College	24.7		Bay City Com. College	85.4
	Muskegon Com. College	24.8		Muskegon Com. College	82.1
				Port Huron Com. College	83.4
				Stout State College	90.2
90			90		
	Ferris Institute	17.0		Wayne State University	76.4
	Henry Ford Com. College	18.0		Grand Rapids Com. College	77.0
				Highland Park Com. College	77.5
				Wisconsin State College-River Falls	81.7
				Wisconsin State College-Whitewater	79.4
				Wisconsin State College-LaCrosse	77.6
80			80		
	Central Michigan College	15.0		Eastern Michigan College	71.9
	University of Michigan	14.7		Ferris Institute	73.7
	Wayne State University	16.1		Michigan State University	73.5
	P-25(1,365 student stations)**	15.1		P-13(552 student stations)**	70.7
	Grand Rapids Com. College	15.3		Flint Com. College	73.4
	Highland Park Com. College	15.9		Jackson Com. College	71.3
	Port Huron Com. College	14.3		Univ. of Wisconsin	70.7

(CONTINUED)

TABLE 34 (CONTINUED)

COMPARISON OF STUDENT STATION UTILIZATION FOR TEACHING LABORATORIES AMONG MICHIGAN INSTITUTIONS, FALL 1956, WISCONSIN UNIVERSITY AND STATE INSTITUTIONS, FALL 1956, AND VALPARAISO UNIVERSITY, FALL 1957.

Percentile Rank*	Institution	Average Hours of Use Per Week
70		
	Eastern Michigan College	13.3
	Michigan State University	13.8
	Western Michigan Univ.	12.1
	P-13(552 student-stations)**	12.0
	P-37(405 student-stations)**	13.3
	Flint Com. College	13.0
	Jackson Com. College	12.5
	Valparaiso University	12.2
60		
	Michigan College of Min. & Tech. (Houghton)	11.6
50		
	P-18(131 student-stations)**	10.6
	Northwestern Com. College	9.9

Percentile Rank*	Institution	Percentage of Station Use When Room in Use
70		
	P-25(1,365 student-stations)**	67.6
	Wisconsin State College - Stevens Point	67.2
60		
	Central Michigan College	66.3
	Michigan College of Min. & Tech. (Houghton)	63.4
	Northern Michigan College	65.4
	Western Michigan Univ.	66.3
	Henry Ford Com. College	63.3
	Wisconsin State College-Eau Claire	67.1
	Wisconsin State College-Superior	65.0
	Wisconsin State College-Platteville	64.0
	Valparaiso University	66.2
50		
	P-27(245 student-stations)**	60.9
	P-36(224 student-stations)**	58.8
	Wisconsin Inst. of Tech.	62.0
	Wisconsin State College-Oshkosh	59.9

(CONTINUED)

TABLE 34 (CONTINUED)

COMPARISON OF STUDENT STATION UTILIZATION FOR TEACHING LABORATORIES AMONG MICHIGAN INSTITUTIONS, FALL 1956, WISCONSIN UNIVERSITY AND STATE INSTITUTIONS, FALL 1956, AND VALPARAISO UNIVERSITY, FALL 1957.

Percentile Rank*	Institution	Average Hours of Use Per Week
40		
	Michigan College of Min. & Tech. (Sault)	8.8
	P-27(245 student-stations)**	8.4
30		
	Northern Michigan College	7.3
	P-40(211 student-stations)**	6.9
	Benton Harbor Com. College	7.7
20		
	P-15(193 student-stations)**	5.4
	P-10(679 student-stations)**	4.6
	P-36(224 student-stations)**	4.8
10		
	P-31(440 student-stations)**	3.7
1		

Percentile Rank*	Institution	Percentage of Station Use When Room in Use
40		
	P-31(440 student-stations)**	55.8
	P-37(405 student-stations)**	56.7
30		
	University of Michigan	53.2
	P-40(211 student-stations)**	53.5
	Benton Harbor Com. College	54.8
20		
	Michigan College of Min. & Tech. (Sault)	51.1
	P-15(193 student-stations)**	48.9
	Northwestern Com. College	51.6
10		
	P-10(679 student-stations)**	41.2
	P-18(131 student-stations)**	42.1
1		

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*Based on norms from Manual for Studies of Space Utilization in Colleges and Universities, John Dale Russell and James I. Doi, pp. 99 and 100.

**Private colleges in Michigan not identified by name. However, we shall identify by number of student stations reported.

TABLE 35

COMPARISON OF THE AVERAGE PERCENTAGE OF POSSIBLE STUDENT-STATION-PERIOD UTILIZATION OF TEACHING LABORATORIES BY DAYS OF THE WEEK AT MICHIGAN INSTITUTIONS, FALL 1956, BASED ON 44-PERIOD WEEK, WITH THE PERCENTAGE AT VALPARAISO UNIVERSITY, FALL 1957

Institution	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday A.M.
Valparaiso Univ.	25.9	33.9	32.2	36.4	24.5	0.0
Michigan Instit. State Controlled	34.4	36.3	34.2	35.2	27.8	7.9
Privately Controlled	27.2	26.1	28.8	25.5	16.5	1.6
Community	41.8	40.0	42.4	36.7	29.2	0.1

TABLE 36

COMPARISON OF THE AVERAGE PERCENTAGE OF POSSIBLE STUDENT-STATION-PERIOD UTILIZATION OF TEACHING LABORATORIES BY HOURS OF THE DAY AT MICHIGAN INSTITUTIONS, FALL 1956, BASED ON 44-PERIOD WEEK, WITH THE PERCENTAGE AT VALPARAISO UNIVERSITY, FALL 1957.

Institution	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6
Valparaiso Univ.		17.3	22.2	16.1	13.7	20.1	34.4	40.2	30.9		
Michigan Instit. State Controlled	0.8	23.7	27.2	27.8	24.3	8.4	29.6	35.3	32.6	24.4	7.5
Privately Controlled	0.1	11.4	14.4	14.7	13.1	11.7	24.3	26.6	20.8	11.5	1.3
Community	2.6	25.9	30.7	29.6	24.6	16.0	27.2	33.1	26.4	19.6	6.4

TABLE 37

COMPARISON OF THE AVERAGE PERCENTAGE OF POSSIBLE STUDENT-STATION-PERIOD UTILIZATION OF TEACHING LABORATORIES OF EACH SIZE AT MICHIGAN INSTITUTIONS, FALL 1956, BASED ON 44-PERIOD WEEK, WITH THE PERCENTAGE AT VALPARAISO UNIVERSITY, FALL 1957.

Institution	Number of Student Stations in Rooms											
	1-10	11-20	21-30	31-40	41-50	51-60	61-80	81-100	101-150	151-200	201-250	251 & up
Valparaiso Univ.	7.8	18.9	25.5	45.6			22.1					
Michigan Instit. State Controlled	17.1	26.7	33.9	35.6	29.3	28.1	28.6	13.1	31.3	22.2		
Privately Controlled	4.8	13.6	19.8	35.7	30.1	32.9	14.7		15.3			
Community	9.2	30.2	37.1	38.7	11.9		28.3					

RECAPITULATION OF STUDENT-STATION UTILIZATION COMPARISONS

GENERAL CLASSROOMS

1. In comparison with other institutions throughout the country, it is noted that, in the average number of hours of use per week, Valparaiso University has a high rate of utilization. On the other hand, Valparaiso has a very low rate of student-station utilization when the rooms are in use.
2. At the Michigan institutions, the student-stations are used more on Mondays than on any other day in the week, while at Valparaiso University Wednesdays have the greatest utilization. The minimum usage is on Thursdays at Valparaiso as well as at the state-controlled and community institutions in Michigan.
3. The student-stations at Valparaiso University are most used at the 9 o'clock, the 10 o'clock, and the 1 o'clock hours. This also holds true for the Michigan state-controlled and community institutions. The most used student-stations at the Michigan privately-controlled institutions are between the hours of 9:00 A.M. to 12 noon. Very little use is made of the student-stations after the 3 o'clock period.
4. The rooms that have a seating capacity from 21-60 student-stations are utilized to the greatest extent. Rooms with a capacity of 20 student-stations or less are used very little.

TEACHING LABORATORIES

1. In comparison with other institutions throughout the country, Valparaiso University ranks favorably in the use of its facilities.
2. The most used days at Valparaiso University and at the Michigan state-controlled institutions are Tuesdays and Thursdays. At the Michigan privately-controlled and community institutions, the heaviest use is on

Mondays and Wednesdays. The highest used day is on Fridays at both Valparaiso and the Michigan institutions.

3. The highest percentage of use occurs in the afternoon hours with the two o'clock hour having the highest utilization. The morning hours have a much lower percentage of utilization except at the Michigan community colleges.
4. The rooms with 31-40 student-stations have the best percentage of utilization at Valparaiso University as well as at the Michigan institutions.

CONCLUSIONS

In retrospect, the 27 per cent average utilization of room-period meetings in the general classrooms at Valparaiso University ranks high when compared to the other institutions throughout the country. However, its utilization of 49 per cent on the average of the student-stations when the rooms are in use is fairly low when compared to the other institutions throughout the country. Valparaiso's utilization of the teaching laboratories compares favorably with other institutions throughout the country with the utilization especially high in its basic laboratories for biology, chemistry, and physics. If the Wisconsin recommendations that classrooms be used on an average of 30 periods per week with 67 per cent of the stations occupied and that laboratories be used 24 periods per week at 80 per cent utilization,[12] then Valparaiso University could increase its enrollment from 2,360 to 2,600 without additional classroom facilities if the average use of the general classrooms is increased from 27 hours to 30 hours per week. Since the rooms at Valparaiso are generally larger than the size of the classes that its faculty, in general, considers desirable (57 average student-stations per classroom as against a desirable class of 30 students) it could, if it is considered educationally desirable, accommodate 3,200 students if it increases its average student-station utilization from 49 per cent to 67 per cent or approximately 3,800 students if we increase from 49 per cent to 80 per cent.[13]

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[12] Wisconsin Joint Staff of Coordinating Committee for Higher Education, Survey of Physical Facilities at Wisconsin State Colleges and University of Wisconsin, Research Study VI, Part 2, Recommended Standards. (Madison: Coordinating Committee for Higher Education, June, 1958), p. 11.

[13] Russell and Jamrich, p. 94

There are a number of ways in which Valparaiso University could improve its space utilization. The best area for improvement would seem to be in the method of scheduling classes. Improvement could be made in scheduling more classes in the early morning and in the late afternoon. Difficulties will arise in scheduling late afternoon classes as this is the time of day that a good many extra-curricular activities are scheduled. Valparaiso might well consider the return to use of the noon period where it formerly used this hour for a total of 132 periods. If the dining facilities could be scheduled to serve lunches from 12 o'clock noon to 2 o'clock, it seems that it would be possible for nearly all students to arrange their schedule in such a manner as to be able to have lunch during one of the two periods scheduled for serving. For example, by starting classes at 7:15 A.M., Valparaiso University could then have Chapel from 11:25 A.M. to 11:45 A.M. and commence classes again on the hour, beginning with the 12 o'clock period. Practically no use has been made of classes scheduled on Saturday mornings. It would seem that the method of requiring all departments to have a certain percentage of their 3-hour courses scheduled for Tuesday, Thursday, and Saturday morning or for Tuesday and Thursday afternoon and Saturday morning is an effective method for equalizing the demands on the different days of the week. A study might be made regarding the reorganization of courses by the number of credits--offer more 2-credit courses instead of the usual 3-credit courses in order to utilize Tuesday and Thursday more effectively. Currently Valparaiso University is using on a limited scale the practice of scheduling a 3-hour course on Tuesday and Thursday for 75-minute periods. So far there have been few complaints against this practice and it might be that it should utilize this method to a greater extent.

Referring back to Table 7, it is noted that 97 per cent of the class-period meetings are for classes with 60 students or less while 66 per cent of the class-period meetings are conducted in rooms with a student-station capacity of 60 or less.

It is in this area that it is felt a major step could be taken to improve the utilization of the University's existing facilities, especially if it wants to keep its class size, in general, limited to 30 students. Table 38 shows the size of classes and number of periods utilized per week in relation to capacity of the general classrooms. In the 61-100 student-station rooms (10) it is noted that only 8 periods of the total 295 periods used have an enrollment that is compatible with the size of the rooms. Therefore, it is suggested that the following rooms in this category be divided into two rooms if it is sound from an engineering viewpoint. The rooms that would be altered are as follows:

Room	Current Capacity	New Capacity*
B-15 (Biology)	80	40
		40
GH-110 (Graland Hall)	70	35
		35
GG-110 (Greenwich Group)	73	36
		37
GG-114 (Greenwich Group)	68	34
		34
GG-124 (Greenwich Group)	95	47
		48
Sc.-21** (Science)	64	32
		32

*Estimated figures depending on the actual division of the rooms.

**May not be adaptable.

Thus, by creating 5 or 6 new classrooms at a seemingly reasonable cost, Valparaiso University could easily absorb the classes between 61-80 students into the two rooms with 101-150 student-stations. The classes of 50 students or less could then be, for the most part, rearranged in its existing rooms leaving many open periods in the newly created rooms.

TABLE 38

SIZE OF CLASSES AND NUMBER OF PERIODS UTILIZED PER WEEK IN RELATION TO CAPACITY OF THE ROOMS FOR GENERAL CLASSROOMS AT VALPARAISO UNIVERSITY, FALL 1957.

Room Cap.	Name and Rm. No.	Number of Class-Period Meetings Per Week For Size of Each Class									Total Periods	Average Periods Used Per Week
		0-10	11-20	21-30	31-40	41-50	51-60	61-80	81-100	101-150		
31-40 (4)	AA-107*		6	15	6						27	25.7
	AL-24	4		14							18	
	GH-109		7	16	3						26	
	KH-13	1	10	17	4						32	
41-50 (11)	AL-23			10	12						22	26.2
	KH-11	9	10		6	3					28	
	KH-12		4	16	8	3					31	
	KH-15-17		2	14	6	5					27	
	LM-203	3	9	11	9						32	
	LM-204	3	3	14	6	4					30	
	LM-303	6		15	3						24	
	LM-304		9	3	9	4					25	
	MB-15			8		9					17	
	MB-17		7	9		9					25	
	Sc.-22		9	8	11						28	
51-60 (7)	AL-31		6	7	15	9					37	31.4
	AL-34		7	9	13	3	3				35	
	FA-5		3	13			8				24	
	GG-112	3	3	17	10	4					37	
	GG-204-6	5	2	3			15				25	
	KH-7-9	2	8	7	3	9					29	
	KH-10	2	8	19	4						33	
61-80 (9)	AL-1				16	18	2				36	29.2
	AL-33	2	4	8	8	2	9				33	
	B-15	2		10	2	2					16	
	GH-110		3	8	13	6	3				33	
	GG-110		6	17	6	1		1			31	
	GG-114		10	18	5						33	
	GG-116*		2	13	9		6				30	
	Sc.-12	1	3	5	9	3	4	4			29	
	Sc.-21		3	7	6	3	3				22	

(CONTINUED)

*Has been altered since the report was made.

TABLE 38 (CONTINUED)

SIZE OF CLASSES AND NUMBER OF PERIODS UTILIZED PER WEEK IN RELATION TO CAPACITY OF THE ROOMS FOR GENERAL CLASSROOMS AT VALPARAISO UNIVERSITY, FALL 1957.

Room Cap.	Name and Rm. No.	Number of Class-Period Meetings Per Week for Size of Each Class									Total Periods	Average Periods Used Per Week
		0-10	11-20	21-30	31-40	41-50	51-60	61-80	81-100	101-150		
81-100 (1)	GG-124		3	15	6	5		3			32	
101-150 (2)	B-10		3	4	1	7		2	2	4	23)	27.0
	Sc.-15	1	5	5	3		7	6	2	2	31)	